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Included are papers, some in abridged or abstract form, on the following areas: 15 on the gifted; seven each on mental retardation and on information services; five each on the disadvantaged, teacher education, and general concerns; four on behavioral disorders; three each on visual impairment, learning disabilities, the homebound and hospitalized, international aspects of special education, and administration; and two on hearing impairment. (JD)

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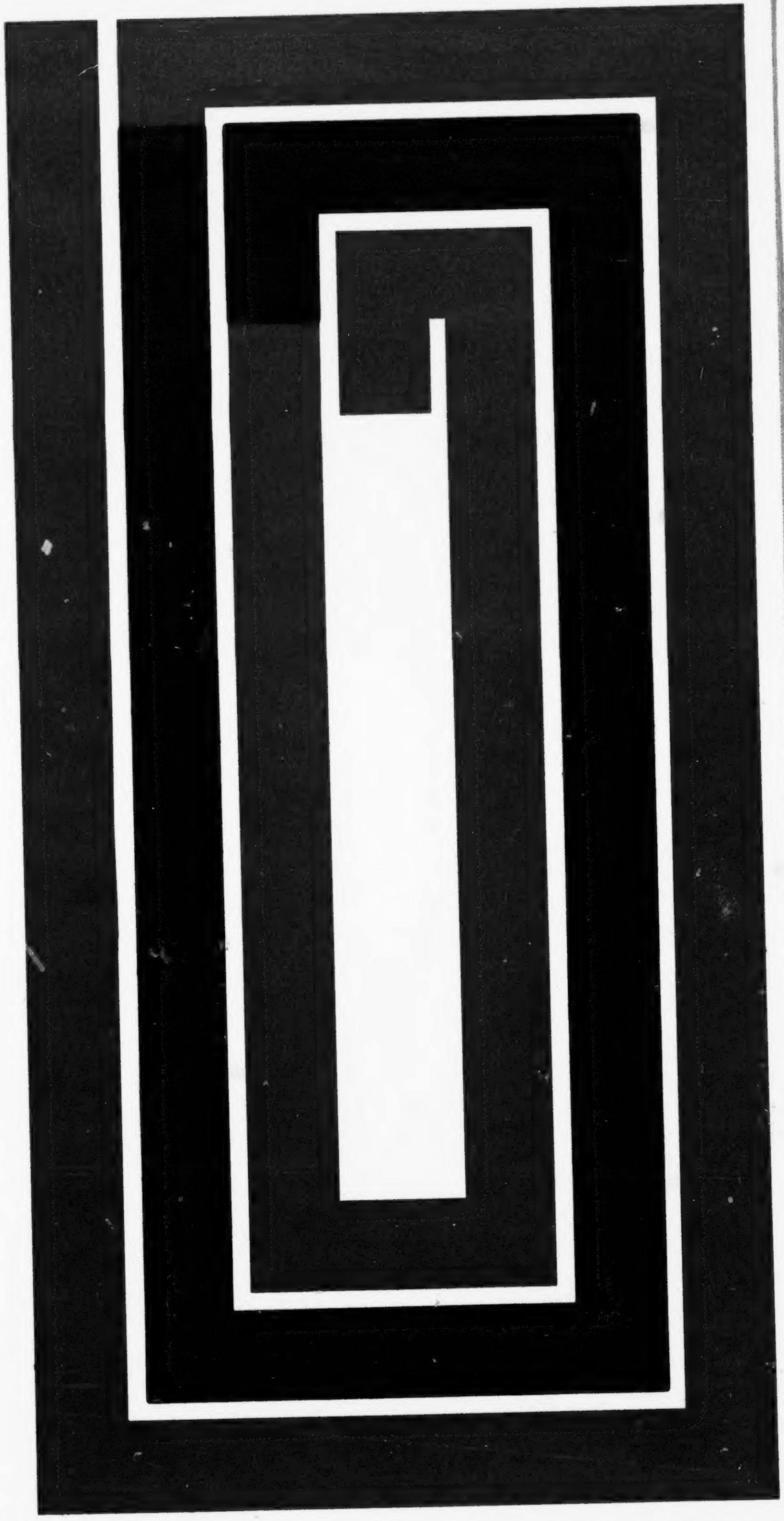

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THE GIFTED

THE GEORGIA GOVERNOR'S HONORS PROGRAM

Margaret Bynum

The Georgia Governor's Honors Program, an eight-week residential program for 400 upcoming eleventh and twelfth grade gifted students, is now in its fourth year. The idea of a summer residential program originated with several members of the State Department of Education. It was one of many ideas for new programs in education submitted by the department to Former Governor Carl Sanders in January, 1964. Governor Sanders personally requested that provisions for a summer honors program be included in Georgia's new Minimum Foundation Program of Education Act which was passed by the General Assembly in January, 1964. Section 51 of this act authorized the State Board of Education to establish a student honors program for pupils in the Georgia public schools who have manifested exceptional abilities, unique potentials, or exceptional academic achievement.

The basic plan for operating this program was developed by members of the State Department of Education. The State Board of Education approved the program on February 26, 1964, and named Wesleyan College in Macon, Georgia, as the site for the program. No ongoing summer program for college students is held on this campus, and the department leases the facilities of the college for the time the program is in session.

The program is completely financed by funds from the general education budget. It is administered in the department's Office of Instructional Services through the Division for Exceptional Children. At the time the program was initiated, it was the only one of its kind in the nation financed in this manner and established as the result of a New Minimum Foundation Education Act.

Definitions

"The gifted," for the purpose of the Governor's Honors Program, are defined as students (a) having high mental ability who have made exceptional academic achievement, or (b) having a special talent in one of the visual or performing arts. The term "mental ability" refers to an IQ score of 120 on a standardized mental ability test. "High academic achievement" refers to an academic grade no lower than B. "Special talent" is defined as superior insight into a particular area. Evidence of this insight does not necessarily mean that the student has high mental ability; however, it does imply the ability to do post-secondary work in the area in which a student has a special talent.

Purposes of the Program

The program's major purpose is to provide students with an opportunity to participate in educational experiences not usually available in the regular school program. It is also designed to assist students in recognizing their potential and their expected role in society. The third major purpose is one which has never been fully implemented due to limited funds. It was originally planned that a training program for teachers interested in the area of the gifted would be conducted. Through the program many of the better techniques for working with the gifted as well as the use of many instruction media are demonstrated. These are observed by a number of visitors who come for short periods of time.

Program Operation

Curricula. Instruction is offered to students in five academic areas—English, modern foreign languages (Spanish, French), mathematics, natural sciences, and social sciences—and three visual and performing arts areas—art, drama,and music.

Student Selection. Students may be nominated for participation in only one of the eight major areas of instruction. Two different sets of criteria are used by public school officials in nominating students for the academic areas and for the visual and performing arts areas. In the academic areas, each school system is given a quota based on the average daily attendance in the tenth and eleventh grades for the previous school year. Academic nominees must meet the following criteria:

1. Will complete either grade 10 or 11 by the close of the current school year.
2. Have an IQ on a standardized mental ability test of approximately 120 or higher.
3. Rank in the upper 10 percent of the class.
4. Have an overall grade average of B and an A average in the area in which nominated.
5. Be recommended by the teacher in the area for which nominated, by the principal, and by the counselor of the school in which enrolled.
6. Have demonstrated interest in the area.
7. Have good physical and emotional health.
8. Show evidence of social maturity.
9. Be endorsed by the local school superintendent.

All academic nominees are required to take the Ohio State Psychological Test administered by the State Department of Education and scored on college freshmen norms. The finalists are selected from those students scoring at or above the 90th percentile on the test. Selection is made by a committee composed of representatives from the State Department of Education and the public school systems. Approximately 265 academic finalists are selected for the program.

Public school systems are not limited in nominations for the visual and performing arts areas. These nominees must meet the following criteria:

1. Will complete either grade 10 or 11 by the end of the current school year.
2. Have demondstrated superior ability in the area.
3. Have had a standardized mental ability test within the last twelve months.
4. Have good physical and emotional health.
5. Be socially mature.
6. Be recommended by the principal and the counselor of the school in which enrolled or by the teacher of the area for which nominated.

Each nominee in music and drama must be auditioned and interviewed by a state committee for the area in which he is nominated. Drama nominees are also required to take the Ohio State Psychological Test. Art nominees must be interviewed and must also submit a portfolio of their work for review by a state committee in art. Approximately 135 students are selected each year as finalists in these three areas.

Instructional Program. The instructional program includes several unique practices which are not features of instructional programs offered in any of the public high schools in the state. Students receive no grades or credit for the work they do. Class attendance is required, but completion of assignments and use of free time is determined by the student. Instruction is offered in large blocks of time which, insofar as possible, are not interrupted. At no time during the eight weeks will a bell ring to tell a teacher that instruction time is over and that students must redirect their interest and efforts. The structuring of these blocks of time is left up to each individual instructor.

The instructional staff tries to give students learning experiences that supplement rather than duplicate experiences offered in the regular school program. Efforts are made in each curricular area to:

1. Stress the major ideas found in a discipline.
2. Assist students in the interrelating of knowledge.
3. Emphasize self understanding and the understanding of others.
4. Develop an approach to the establishment of a personal value system.
5. Foster intellectual knowledge.
6. Stress the joy of learning for its own sake.
7. Assist students in the development of independent study skills.
8. Develop an attitude of inquiry.
9. Stress the open ended aspect of learning.

One of the unique phases of the instructional program is the seminar conducted twice a week for two hours. Participation in the seminar is required of all students. Discussions center around such topics as: the nature of man, man and his relationship to science, creativity and the arts, religion, and value patterns. Topics are usually presented to the group through large group lectures delivered by an outstanding authority on the topic or by movies related to the topic, followed by small seminar discussions. It is through this phase of the program that students are assisted in looking at the value patterns of man regardless of his culture and in beginning to develop a personal value pattern. One student in writing her reactions to the seminars stated, "Through the seminars I came to understand myself through the understanding of others. I thought and questioned my beliefs as they were confronted with arguments to shake them. Most important of all, I was searching for the truth for me, and I learned not to be afraid of what I might find."

For nearly two hours every afternoon except Saturday, students have an opportunity to study subject area other than that in which they were nominated. It is through this phase of the program that students majoring in an academic area or an art area have an opportunity to open new vistas of learning or to further develop an interest.

The daily physical education and recreation program is a very important phase of the total program. Through this phase of the program students should develop recreational skills they can carry into adulthood. This includes individual or small-group instruction in such activities as golf, tennis, archery, and swimming.

Student reaction indicates that one of the most valuable aspects of the program is the special events programs usually held twice a week. Through these programs students are given opportunities to meet and hear successful adults who are gifted in one or more fields. Special events speakers have included artist Lamar Dodd, editor Ralph McGill, Senator Herman Talmadge, Former Governor Carl Sanders, newspaper columnist Paul Hemphill. Art exhibits with works by well known artists, student art exhibits, and student performances in music and drama are also considered special events.

Included on the staff for the program are two full time counselors and two part time counselors, who are responsible for the sixth phase of the total program. A counselor is available to students at all times during the eight weeks. A concerted effort is made to see that each student has at least one individual counseling session for the purpose of self understanding, personal problem solving, and educational and career planning. These services are provided through testing and test interpretation, individual counseling, and individual and group conferences with college admissions personnel.

PERSONALITY CHARACTERISTICS OF HIGH SCHOOL DROPOUTS OF HIGH ABILITY

Bartell W. Cardon and George T. Zurich

The problem of the high school dropout has been with us for a long time. An article published in 1872 (Harris) is probably the first on this particular topic. Since that time there has been a constantly increasing flow of reports. Blough (1956), in analyzing selected research literature on the dropout problem, listed nearly 1,000 articles written between 1872 and 1956, and there have been numerous additional reports since then.

Although there has been a rapidly increasing wealth of information pertaining to high school dropouts, few well conceived investigations of personality variables as they relate to early school withdrawal are to be found. Most of the early reports merely summarized reflective comments of teachers and principals as to what dropouts were considered to be like. Recent studies (e.g., Kelly and Veldman, 1964) are based on more sophisticated research designs. The general conclusion of most authors who have reported personality data is that dropouts show less adequate adjustment than their scholastic peers. But the available data are too inconclusive to define the dropout prone personality (Nachman, Getman, and Odgers, 1964).

An extensive study of dropouts of high ability has recently been completed in Pennsylvania (French and Cardon, 1966). The present report deals with personality findings of that study and is an attempt to answer the following questions: (a) how do dropouts of high ability differ in their personality makup from their peers who remain to graduate (persisters) and (b) is there a dropout prone personality?

Subjects

The subjects were 125 male and 81 female dropouts and a like number of male and female persisters with IQ scores, neighborhoods, and grades comparable to those of the dropouts at the time of their withdrawal. The dropout sample was drawn from all of the Pennsylvania boys and girls of IQ 110 and above who were known to have withdrawn from school during the 1964-1965 school year. The persisters were selected from students attending the schools at which the dropouts had previously been enrolled.

The mean IQ score of both the dropouts and the persisters was 115, and the range was 110 to 142. The two groups did not differ significantly with regard to occupation and educational attainment of the parents. The dropout group averaged approximately 16.5 years of age; the persisters averaged approximately nine months younger. The dropout sample may have been biased to an unknown extent due to the voluntary nature of its involvement in the study.

Procedure

Originally, each Pennsylvania public and private school with grades 9 through 12 was contacted and requested to supply a list of dropouts meeting the criterion of IQ and year of withdrawal. Approximately 95 percent of the schools responded, and slightly more than 1700 names were submitted. Of these, 55 percent were females. Fifty field representatives (counselors and school psychologists) contacted, interviewed, and tested the dropouts and persisters.

The High School Personality Questionnaire (HSPQ) (Cattell and Beloff, 1962) was used as the primary measure of personality. It is a self rating questionnaire consisting of 142 multiple choice items and measures 14 factors or independent dimensions of personality. One of the advantages of this instrument is that the responses are readily converted into profile form. For plotting purposes, raw scores are converted to *stens*. Scores which are normal or average fall within the *sten* range from five to six. Only as scores approach and extend beyond four and seven are they considered to represent significant departures from the average. Table 1 provides an outline of characteristics associated with each of the HSPQ Factors.

Results

Males. The mean HSPQ profiles of 125 male high school dropouts and 125 matched persisters are presented in Figure 1. **Factor** E is a measure of the Submissiveness-Dominance dimension. The dropout boys were found to be significantly more assertive, independent, unconventional, and rebellious than the persisters (t=2.02, df=248, $p < .05$). Cattell and Beloff (1962) have pointed out that high dominance scores have been found to be associated with leadership striving, although "the correlation is higher with *attempted* leadership than *accepted* leadership." Adventuresomeness might best describe this dimension.

Factor F, the Desurgency-Surgency dimension, is considered to be one of the most important components of extroversion (Cattell and Beloff, 1962). The male dropouts again scored significantly higher than male persisters (t=2.93, df=248, $p < .01$). The dropouts could be described as having a more uninhibited and happy-go-lucky attitude than the persisters. Such an attitude is usually accompanied by less exacting aspirations. R. B. Cattell (Personal Communication, 1966) has suggested that this dimension is associated with home rearing practices. Individuals scoring high on Factor F tend to come from homes characterized by permissiveness and nonchalance. It follows, then, that individuals with a high score on Factor F would be expected to have had relatively few serious restrictions placed upon them in early life.

A third significant difference was found for Factor I (Realistic Sensitive). This is the "tender versus tough" or "soft headed versus hard headed" dimension, especially as it relates to social attitudes. Individuals scoring low on Factor I would also be expected to have little aesthetic or dramatic inclination. The dropout boys were found to be more realistic, more prone to act on practical logical evidence, and more self reliant (t=2.66, df=248, $p < .01$). As in the case of Factor F, Factor I is also considered to be associated with environmental determinants. A low score on Factor I tends to reflect a home which is neither protective nor concerned with the child.

Although no other significant differences were found between the two male groups, the data obtained on several of the remaining factors are relevant to understanding the personality of dropouts and persisters of high ability. Both groups of boys scored above the mean on Factors A, B, and C. Scores on Factor A, which represents the aloof-sociable (Schizothymia-Cyclothymia) dimension, indicated that both dropouts and persisters tended to be good natured, easygoing, interested in other people, warm hearted, and cooperative. The primary purpose of Factor B is to provide a quick measure of general ability. The performance of both groups was in basic agreement with findings on the longer and more reliable measures of intelligence used for original selection purposes. Factor C is the immature-mature (Ego weakness-Ego strength) dimension. High scores here are associated with emotional maturity, stability, adjustment to facts, and placidity. Although the scores of both groups fall above the mean, they are within normal or average limits.

Both dropouts and persisters scored below the mean on Factor D (Phlegmatic-Excitability), suggesting that they tend to be constant, self sufficient, and deliberate. Referring to the mean score of the dropout group on this dimension, Cattell (Personal Communication, 1966) suggested that "if anything... they would be a bit oversecure."

Females. The female dropouts were divided into two groups for comparative purposes: those who left school because of pregnancy and/or marriage (N=55) and those leaving school for other reasons (N=26). For brevity, the former group will be referred to as "married" and the latter group as "unmarried." The HSPQ profiles for both these groups are shown in Figure 2.

Married Females. The girls withdrawing because of marriage differ significantly from the female persisters only on Factor A (t=3.58, df=134, p < 001) and Factor H (t=3.14, df=134, p= < 001). The married girls were far less socially oriented than the persisters; they were less prone to seek social recognition. Also, they were more inclined to work alone, preferring things or words to people. A low score on Factor A is generally associated, therefore, with poor social adjustment in junior and senior high school.

The married girls scored much lower on Factor H (Threctia-Parmia) than the persisters. They were more restrained and withdrawn, tending to be careful and well behaved. These girls would be expected to be less prone than the persisters to seek out new and unknown social situations and could be described as tending to be shy and retiring.

Both the married girls and the persisters scored high on Factor G, suggesting drive and persistence. High scores along this dimension imply regard for moral standards and emotional maturity, both of which are associated with achievement and occupational success in later life.

Unmarried Females. Significant differences between unmarried dropouts and persisters were found along two dimensions. The dropouts were more frank, happy-go-lucky, and talkative (t=2.05, df=105, p= < 05), as indicated by a high score on Factor F. A low score on Factor I suggests that they are more self reliant, practical, and responsible (t=2.33, df=105, p= (.05).

When married and unmarried female dropouts were compared, significant differences were found on Factor C (t=2.12, df=79, p= < 001), and Factor H (t=1.82, df=79, p= < 05). The unmarried females were more mature and realistic. They were also more assertive and self assured. Behaviorally, they were more talkative, impulsive, and frivolous, and social contact brought more gratification to them than it did to the married dropouts.

Of particular interest is the marked similarity between the unmarried female dropouts and the male dropouts (see Figure 3). They do not deviate statistically from each other on any of the 14 factors. The description of the male dropouts would basically apply to the unmarried females.

Discussion and Conclusions

The male dropouts of high ability were very similar to male persisters in several ways. Contrary to the stereotype, these bright dropouts were found to be sociable, mature, constant, and capable of self direction. The point of difference is associated with attitudes regarding how one should relate to persons and things. The male dropout would appear to be more casual and adventuresome in his approach to life situations, although he tends to be more prone than his persister peer to take responsibility for his own actions. He is reality-based and not easily swayed by social pressure.

The unmarried female dropout was much like her male counterpart in personality makeup. She, too, is an individual willing to set a course which is contrary to the expected.

It has been hypothesized that the uninhibited, happy-go-lucky, reality-based traits which characterize the male and unmarried female dropouts find their origin, at least in good measure, in the home hallmarked by permissive and nonchalant child rearing practices. Obviously, this relationship warrants further investigation.

Whatever may be the origin of these characteristics separating the male and female dropouts from their persister peers, there is reason to be relatively sure that the typical school situation requires much more conformity and soberness than dropouts of high ability are willing to provide. The likely result may well be frustration for both dropouts and educators, leading to conflict and ultimately to withdrawal.

This would not be expected to be true for the married girls, however. They leave school, generally speaking, because they are pregnant. This does not suggest that the pregnancy is necessarily an accident. Indeed, the personality makeup of the married dropouts would strongly suggest that pregnancy, usually premarital, provides an effective vehicle to the obtainment of goals. These girls could be described as "homebodies." They seek comfort in relatively nonsocial, but definitely not nonpersonal, activities. Pregnancy and marriage permit these girls to withdraw from a social setting (school) which provides little satisfaction and enter a personal setting (marriage) which is more likely to fulfill their needs.

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Table 1

HSPQ Factor Score Descriptions

Factors	Low Score Description	High Score Description
A	Reserved, detached, critical, cool. (Schizothymia)	Outgoing, warmhearted, easygoing, participating. (Cyclothymia)
B	Less intelligent, concrete thinking. (Lower general mental capacity)	More intelligent, abstract-thinking, bright. (Higher general mental capacity)
C	Affected by feelings, emotionally less stable, easily upset, changeable. (Lower ego strength)	Emotionally stable, faces reality, calm. (Higher ego strength)
D	Phlegmatic, deliberate, inactive, stodgy. (Phlegmatic temperament)	Excitable, impatient, demanding, overactive. (Excitability)
E	Obedient, mild, conforming. (Submissiveness)	Assertive, independent, aggressive, stubborn. (Dominance)
F	Sober, prudent, serious, taciturn. (Desurgency)	Happy-go-lucky, heedless, gay, enthusiastic. (Surgency)
G	Disregards rules, undependable, bypasses obligations. (Weaker superego strength)	Conscientious, persevering, staid, rule-bound. (Stronger superego strength)
H	Shy, restrained, diffident, timid. (threctia)	Venturesome, socially bold, uninhibited, spontaneous. (Parmia)
I	Tough-minded, self reliant, realistic, no-nonsense. (Harria)	Tender-minded, dependent, overprotected, sensitive. (Premsia)
J	Vigorous, goes readily with group, zestful, given to action. (Zeppia)	Doubting, obstructive, individualistic, reflective, internally restrained, unwilling to act. (Coasthenia)
O	Self assured, placid, secure, serene. (Confident adequacy)	Apprehensive, worrying, depressive, troubled. (Guilt proneness)
Q_2	Sociably group dependent. (Group dependency)	Self sufficient, resourceful. (Self sufficiency)
Q_3	Casual, careless of social rules, untidy, follows own urges. (Low integration)	Controlled, socially precise, self disciplined, compulsive. (High self concept control)

Q_4	Relaxed, tranquil, torpid, unfrustrated (Low ergic tension)	Tense, driven, overwrought, fretful. (High ergic tension)

Figure 1

Mean HSPQ Profiles of 125 Male High School Dropouts and 125 Matched Male High School Persisters

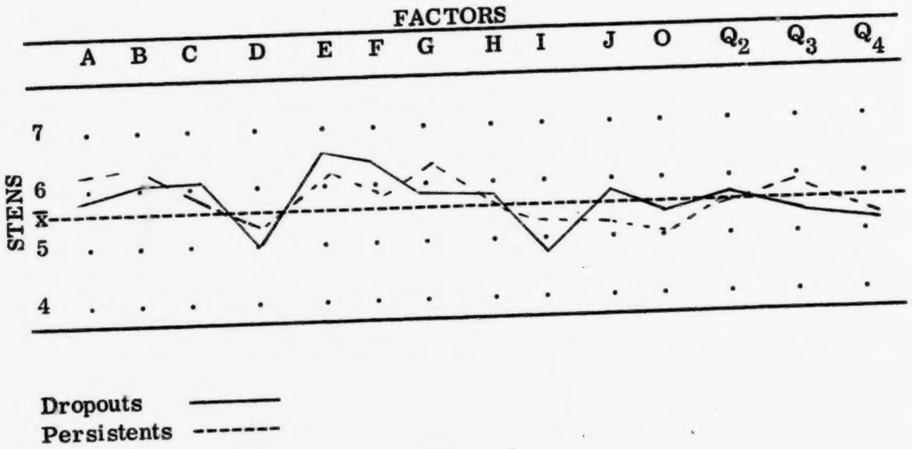


Figure 2

Mean HSPQ Profiles of 26 Unmarried and 55 Married Female High School Dropouts and 81 Matched Female High School Persisters

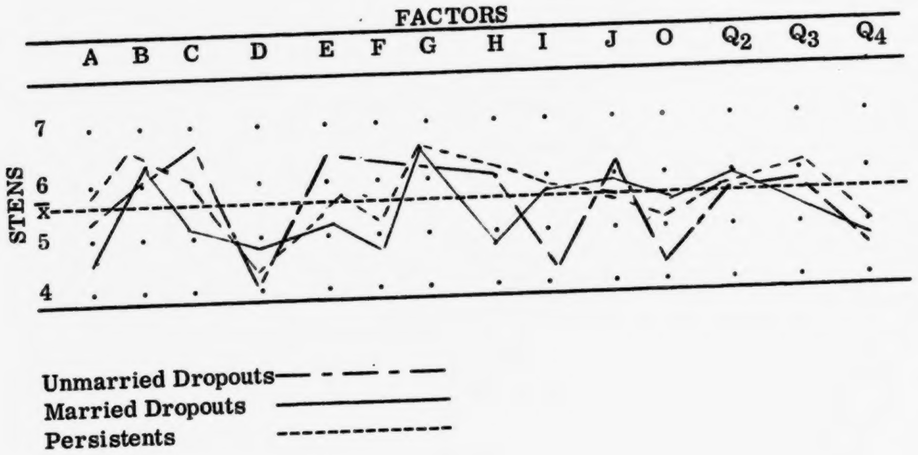
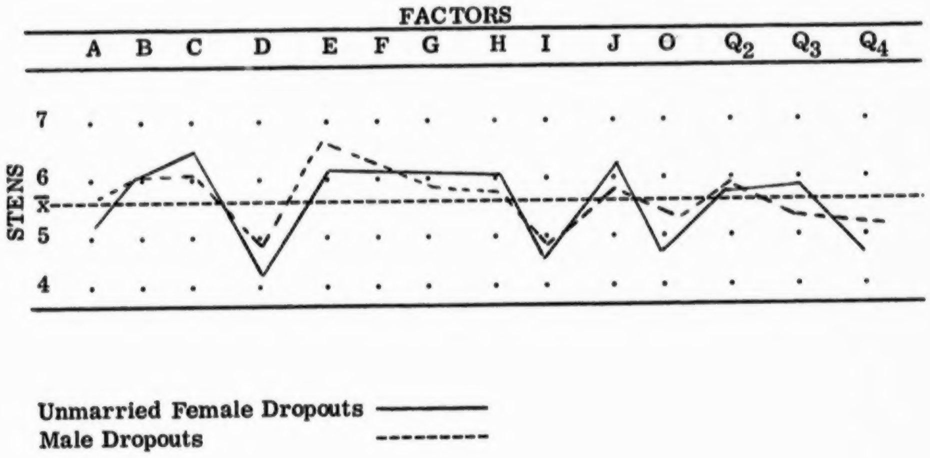


Figure 3

Mean HSPQ Profiles of 125 Male High School Dropouts
and 26 Unmarried Female High School Dropouts



THE LOUISIANA GOVERNOR'S PROGRAM FOR GIFTED CHILDREN: TEACHING IN A SUMMER HONORS PROGRAM FOR GIFTED CHILDREN

George Middleton

The Louisiana Governor's Program for Gifted Children was established in the spring of 1965. Prior to that time, it had been known as the McNeese State College Summer Enrichment Program, which began in the summer of 1959 with 15 children from southwest Louisiana. Dr. Marjorie McQueen, now Associate Professor of Social Work in the Children's Research Center of the University of Illinois, and I planned the program and did almost everything else as an after-hours project. The plans were looked upon with favor by the late Dr. C. C. Baker, who was then Director of the Special Education Center at McNeese State College. Dr. Baker obtained the approval and financial support of the State Department of Education through Dr. Lionel C. Pelligrin who was State Supervisor of Special Education at that time. He also arranged with Dr. Robert B. Landers, Dean of the Division of Education, and McNeese President Wayne N. Cusic, for classrooms and professors to teach the classes.

The program was established to provide an opportunity for selected intellectually gifted children to enrich their educational fare, to discover and provide guidance with respect to deficiencies which might interfere with their development, and to provide a laboratory in which to carry out research on education of intellectually gifted children.

Six specific educational objectives were set forth:

1. To further independent thought and action.
2. To extend knowledge in some culturally and socially useful areas.
3. To develop some advanced concepts in science.
4. To develop elementary skills in defining problems and formulating orderly and systematic methods of solving them.
5. To improve ability to organize thoughts and ideas and to express them in writing.
6. To improve general work study efficiency.

Selection for admission to the first class was contingent upon enrollment in a fifth, sixth, seventh, or eighth grade class in a public school in the area served by the Special Education Center; recommendation by the principal of the school in which the child was enrolled; and an IQ score of 130 or better on the verbal scale of the Wechsler Intelligence Scale for Children. No stipulations were made regarding school achievement or behavior.

Three broad curricular areas were delineated within which instruction was to be given: foreign language, English language and literature, and science. The curriculum was intended to hasten the children through the antechambers of knowledge and wisdom, to equip them more adequately with the intellectual tools of exploration and communication, and to develop in them an appreciation for what others have thought and discovered.

Instruction was provided five mornings a week for six weeks. In the area of foreign language, instruction was provided in conversational French. The English language and literature course consisted mainly of lectures on the history and development of the English language. Occasionally, a philosophical question connected with the topic under consideration was introduced and discussed. Greek mythology was introduced toward the end of the session, and each child was encouraged to read about some of the ancient Greek gods and to prepare a notebook on one of them.

Science instruction consisted chiefly of laboratory work on projects of the children's own choosing. Library references were read in connection with the project. For the first two weeks of the session, lectures and demonstrations of important common physical phenomena were performed before the group by the homebound instructor. The children were then required to write up the demonstration according to a standard outline, describing the materials used and the events which took place, and identifying the principles which underlay the phenomena observed.

Although we were uncertain, at the end of the session, about what had been accomplished educationally, one thing was apparent: everybody had had a wonderful time. In fact, the response on the part of everyone concerned was so very favorable that it took little urging to gain the support of the college and the State Department of Education for a repeat performance with an additional class the next summer. So in the spring of 1960, a new class of 17 sixth grade children was selected, and the students from the previous year were invited to return for a second summer. The new class received essentially the same instruction in French as the first class had received in summer of 1959. The first class continued with French, but on a more advanced level, with instruction in the written as well as the spoken language.

Both classes received the same instruction in the area of English language and literature. The theme of the course was the logic of grammar; emphasis was placed upon the correct use of language in both oral and especially written forms. The children were taught how to express themselves effectively in writing, and how to avoid errors in thinking which result from the illogical use of language.

The science program was extensively revised. In 1959 the children had been asked to think of a project on their own; in 1960 they were asked to choose a project from a given list of projects designed to teach important concepts, principles, and techniques. Before proceeding, each student was required to carry out a review of pertinent literature and to prepare an outline of the problems, principles, materials, and procedures involved in the project. It was hoped that this approach would prevent the deterioration of scientific projects to essentially "arts and crafts" projects, which had occurred in 1959. An oral and written presentation of the project was made by each student before he actually started to work on it. When he had passed the examining committee, he was free to proceed on his own.

The next significant change in the program was made three years later, in 1964, when the program was opened to gifted children in other sections of the state. By that time a great many other lesser changes had taken place. The classes were no longer being taught by college professors in their spare time. A staff of public school teachers from junior and senior high schools had replaced the professors. Four classes had graduated, and each graduating student had been awarded a diploma. The program had developed into a three year sequence. The number of applicants was over 125 in 1964. Eligibility criteria remained essentially the same except that the Wechsler Intelligence Scale for Children was no longer being used. The Stanford-Binet had been adopted in its stead, and the cutoff score was set at 136. The academic areas of the physical sciences, the humanities, and English composition had begun to take form. The presentation of a play and a musical performance by the school chorus had become an annual event at the graduation exercises.

The decision to open the program to children on a statewide basis met with considerable success because of the interest of special education directors at the other state colleges. Instead of accepting only 15 new students, we decided to double the number, and establish two freshman classes. That year the children ranged in Binet IQ from 136 to 171. In order to try to discover in what way the high IQ children differed from their lower IQ classmates, we divided the new children into two classes according to their Binet IQ. The top group consisted of those children who scored 154 or better on the Binet. The second class consisted of those who scored from 136 through 153. The teaching staff was not informed of the basis on which this separation was made. Within two weeks, however, the teachers had discovered the basis for themselves. Interestingly enough, their remarks concerning the two groups indicated that the top group was not only more enthusiastic and competitive but also markedly more creative than the lower group.

In 1964 we began our boarding school. This innovation has had a more profound impact upon the entire program than any other single event. School spirit has always been unusually strong among students and teachers alike—so strong that we sometimes worried about the tearful partings at the close of each session. But the school spirit was intensified considerably by the boarding aspect—and so was the administrative headache. I think I would not be overstating the case if I said that the boarding of students did the most to make the program a permanent part of our educational system in Louisiana.

In the spring of 1965, the Summer Enrichment Program faced a grave crisis. Since 1959 it had been financed from unspent monies which remained in the budget of the Special Education Section of the State Department of Education at the end of each fiscal year. Suddenly, there were no funds left over. During the spring, I had several discussions with the State Director of Special Education, Mr. James L. McDuffie, and with State Senator Jesse Knowles concerning the problem. The plight of the program was compounded by the fact that an error in allocation of funds had left the McNeese Special Education Center without funds with which to operate during the fourth quarter of the fiscal year. It never rains but that it pours, and during the spring came the deluge. On one of those dismal days it occurred to us to ask Governor John J. McKeithen to establish the McNeese Summer Enrichment Program as the "Governor's Program for Gifted Children" and to secure funds for it to operate each year from thenceforth. Following is a brief portion of the proposal that was presented to Governor McKeithen:

> We suggest that, following the precedent set by Governor Terry Sanford of North Carolina, in the establishment of the Governor's School, our Governor assume responsibility for financing the Summer Enrichment Program from this time on. The name of the Program would be changed to "The Governor's Program for

> Gifted Children". Under such an arrangement the present McNeese Summer Enrichment Program could in time become the hub of a program for gifted children all over the State, involving many of the schools and institutions of higher learning. Thus, the much needed establishment and improvement of provisions for the education of our able youth could be brought about in an orderly and intelligent manner to the benefit of the pupils and the society in which they live.
>
> If our Governor should be willing to accept this challenge, care would have to be taken to prevent the Program from becoming subject to political pressures which would destroy its effectiveness.
>
> The following measures should accomplish this goal: All special monies for the operation of the Governor's Program should be allocated to, and administered by, the State Director of Special Education; and selection of pupils and teachers, and the development of the curriculum and methods of teaching should remain exclusively in the hands of those persons to whom these responsibilities have been delegated by the proper authorities.

Needless to say, Governor McKeithen accepted the challenge.

I think that the summer of 1965 was our best session to date. 1964 saw the formal establishment of the humanities as a regular part of our curriculum, but 1965 saw its best implementation. In fact, the entire curriculum, which had been developing on a trial and error basis over the years, had attained a reasonable degree of maturity, both in conception and in practice. I can do no better than to quote here a section of a paper prepared by Miss Mary Hair, which describes the curriculum as it was then conceived:

> The Program is basically a liberal arts program. Its teachers want its graduates to consider that "a proper study of mankind is man" in the hope that they will go on to become mature men. By the end of the Program, a student should realize that before one can consider questions of ethics or politics, before he harnesses the forces of nature to serve him, he must answer the question, "What is the nature of man?" and that this question is inextricably tied to his concept of the universe.
>
> No one is so naive as to believe that a 15 year old is a philosopher. The faculty feels, however, that no age is too early to begin to steep highly gifted children in the traditions of scholarship in Western civilization which goes back to the Greeks and their clear presentation of what questions must be asked in evaluating all forms of human endeavor.
>
> The course in the physical sciences is not designed to produce Ph. D.'s at age 21, although it is one of the best developed in the entire Program. The third year student should have some concept of independent investigation and problem solving, as well as introduction to good laboratory techniques, one skill necessary to further conceptualization. The first step, taken with the sixth graders, is the teaching of the importance of precise measurement. The next year, these students begin problem solving using a set of

physical principles presented by the teachers. Some of these are true, some partly true, and some false. Each child selects one to prove or disprove. He is led to prepare a list of questions to which he needs an answer for his individual investigation.... He studies concepts, generalizes, notes practical application, and finally prepares a formal report of his investigation. As a last step, he checks with literary sources to compare results. In the third year, he is assigned a problem, studies some of the literature on work done on the problem before, formulates a hypothesis, sets up an experiment, and finally makes a formal report on his work. He is not at this point a finished scientist, or even a thorough laboratory technician, but he, it is hoped, will leave the Program at the end of the third year with the humility necessary to become a good research man or to recognize the quality of the work of those who go into pure science.

In his first year in the Program, in the Humanities, eleven year olds are introduced to the questions which have faced all men. The specific object is to stimulate their interest in these problems, and for that reason the problems are presented primarily in fiction. Before the six weeks have passed, students have considered the ideas of justice, freedom, truth, beauty, virtue, and wisdom, as they read stories, poems, plays and short selections of non-fiction which deal with varying attitudes toward these ideas.... The method of dealing with the ideas is discussion, and this road to the final end of the course constitutes also a major end of the three summer sequence. In the school of hard knocks, the faculty has learned that highly gifted children are no better than adults at considering ideas objectively in a discussion. They come into a class with a set of preconceived ideas and spend their attention while one is presenting an idea, not on considering that idea, but on rearranging their own prejudices for a well-worded retort. To combat this weakness in class discussion, teachers are organizing their material using a dialectical approach. Whenever debate is used, the cross examination technique is on hand to prevent the easy satisfaction that is the result of glibness....

In the second year, using the same discussion techniques, longer works, such as T. M. White's "Sword in the Stone" and Orwell's "Animal Farm" help to differentiate the problems.... Freedom, power, justice—all can be explored, and by the end of the session, discussion and techniques and ideas will be developed so that the next year the traditional methods of arriving at truth in an objective way can be studied, and the question of justice—the biggest of all—can be explored. The course begins with Plato and Aristotle; it proceeds to Machiavelli, to Hobbs, and to ideas from other civilizations in order to show a historical progression of ideas and also opposing views, each of which has had its followers. Every idea of justice is considered from the point of view of the nature of man implicit in the theory and the writer's source of knowledge....

Writing occupies each student for one hour a day. Its purposes range from remedial work for the occasional student whose mind has worked too fast to leave him patience to acquire such mundane skills as the ability to spell and use the accepted English syntax for written expression, to the development of real creativity. Students are led to increased precise expression of ideas; so they spend some time in

> pure expository writing.... In the public school, necessary emphasis on penmanship and form provides the foundation which each student needs, but often stifles the desire to write. In the Program the emphasis is on ideas, clearly, beautifully, wittily expressed.

1966 fell a little short of the level that had been reached in 1965. An unusually large number of faculty members had to take leave for the summer, and although their substitutes were excellent, they were inexperienced in this type of teaching. Furthermore, we were not the only ones who were growing. McNeese State College was increasing by leaps and bounds in student population, and we had to yield to the demand for classrooms and laboratory facilities on the college campus. It became necessary to move virtually the entire program to a junior high school building located nearby. Our children had enjoyed the prestige and atmosphere of the college campus; hence, they suffered a major psychological blow from this change. And we had lost Dr. McQueen to the University of Illinois.

On the other hand, some very good things came about in that year. For one thing, a student government was formed. The students drafted a constitution patterned after the United States constitution, and it is a thoughtful and impressive work. The children took the task seriously, and their labors to insure that a just government would be the product of their efforts would put most professional politicians to shame. In that summer, a greater number of sections of the state were represented by students in the program; public interest and support increased significantly; the number of children participating in the program was double the number who participated in 1963; and we graduated the first class which contained students whose homes were outside of the Lake Charles area.

The summer of 1967 looks very promising. Some of the faculty members that were away last summer will be back with us. Due to an increase in classroom and laboratory facilities at the college, we will be back on campus. For several years we have had a "part time graduate program" for students who have completed their three years. This year it will be on a full scale because we will have our first graduates who must be domiciled on campus. The graduate science program will consist of lectures by members of the college science faculty, and interested students will be permitted to work as research assistants to some of the faculty members who are actively engaged in research projects. English composition for the graduates will concentrate on the essay. The humanities course will survey Western intellectual history in an effort to tie together what the students learned in their "undergraduate" years. Of course, music, drama, and physical education will be open to graduate participation.

We are still a "bargain basement" governor's program, for the annual state allotment is still ten thousand dollars. Last year, it cost more than twice that much to operate. The deficit is made up by tuition and boarding fees. Scholarships are awarded to needy students from a fund collected and administered by our Parents Association.

To date we have enrolled nearly two hundred children. Although we have made but one formal followup study (and that was done about six years ago), the bulk of the feedback information from graduates and their parents and teachers indicates that the impact of the program has been good.

I shall conclude this presentation with a quotation from a letter written to me in 1960 by the late Professor Franklin Shaw of the University of Alabama, for it sums up beautifully the philosophy which has guided our efforts to educate the children in our charge:

> The evolutionary leap separating man from other creatures is marked by his capacity for releasing himself from the confines of existing frameworks through reconciliation. It is through such

> release that man builds cultures, laughs, invents and transcends all manner of bondage.... If he is a transcendent creature, uniquely capable of reconciliation, his education should be suited to his transcendent nature. The doctrine of formal discipline, which is still with us, is suited to his animal heritage but not to his transcendent nature which distinguishes him, phylogenetically, from other creatures. His transcendent nature calls for larger views within the framework of which mere facts take on meaning. The doctrine of formal discipline gives priority to rehearsal in factual information. Educational practice deriving from it assumes that students must be reduced to a state of passive acquisition before they can venture into higher realms of abstraction. The typical result, of course, is that they keep on demanding "facts" when they are offered the opportunity to cope with meaning. Stated otherwise, they insist on being something other than fully human because they have been trained to prize their animal heritage but not their humanity, their transcendent nature. I believe that they can be taught theory from the outset.... In so doing I believe we could invite them to reach beyond anything we have to offer and to evolve knowledge in a way that has always occurred in the history of mankind but that has not been introduced very effectively into the educational process. I believe that education can be modeled after Man's transcendent nature and that students can be invited to make inductive leaps and that such leaps can be produced with regularity....

THE TOTAL DEVELOPMENT CONCEPT: A NEW APPROACH TO SEEKING STATE LEGISLATION FOR THE GIFTED

Mary M. Pilch

In 1962 the Council of Chief State School Officers, in their publication, Gifted Children and Youth, had this to say about the education of the gifted:

> As a part of the total function of providing educational opportunities appropriate to individual differences of pupils at all levels of ability, American public education is confronted with the obligation to identify and make specific provisions for those individuals who are gifted. Our basic concepts of democracy regarding the worth and dignity of each individual indicate a definite need for such educational provisions.

Identification and selection of giftedness must be concerned with many kinds of talent in varying degrees of excellence. Recent research indicates that giftedness is a multidimensional phenomenon consisting of many special abilities which are uncorrelated or are related to such a small degree that measurement of one dimension will not necessarily predict what the other abilities may be. It therefore must not be assumed that intellectual capacity as measured by an intelligence test should be the sole means for selecting the gifted. Valid identification of those special abilities that comprise the phenomenon of giftedness should therefore include various means for assessing gifted potential in as many different areas and at as many levels as possible.

Based upon this rationale, a working definition of the gifted is in order: Giftedness is a multifaceted dimension, which includes several parallel types of talent and extraordinary ability, each of which is recognized to have its own importance. The term includes not only the exceptionally high learning ability type (high IQ), but also those possessing a comparatively high degree of such abilities as creativity, imagination, intellectual flexibility, and originality.

C. W. Taylor, in a paper titled "Challenges for Education from Creative Findings" says:

> The research findings show that students possess more potential than is often assumed for doing a wide variety of thinking and learning, so we strongly urge that students be seen as "thinkers," not merely "learners." The total picture suggests that a great number of different thinking and learning processes in students could be developed for their later use. If educators would conceive that students are really thinkers (not just knowledge absorbers), we believe that much greater development of all of the potential abilities in our youth would occur.
>
> Stating the matter otherwise, we believe that different attitudes, abilities, and other psychological characteristics are needed for operating present programs and systems than for focusing on the problem areas and trying to troubleshoot and improve upon the present systems. We also feel that we are not doing very well in preparing people for change, for keeping on the "right side of change," and even for bringing about needed changes in knowledge and practices. Certainly we should help them learn how to keep abreast of changing knowledge "on their own" and even further to be active participants in the expanding knowledge explosion industry.

When student talent becomes popularly respected as a human value and an asset to be nurtured and appropriately trained, then greater concern will be exercised for achieving that educational environment within which unique giftedness can properly flourish. Teacher selection and training, development of appropriate curricular materials and processes, flexible organization and administrative procedures, and provisions for special services and facilities would then be planned and implemented to assure greater self actualization for these students. Stated in another way, the effective provision of carefully selected learning experiences for those who, when they enter school, reveal capacities which can be identified as giftedness, requires utilization of the most sophisticated resources available, implementation of the most current and responsive techniques relating to learning theory, employment of programing so flexible that it will assure adequate individualized instruction, and harnessing of selected and trained teacher power. Only by such total concept planning can we hope to achieve the necessary standards for quality education for all gifted children and youth.

The total concept approach demands nothing less than total development planning at the state level. This will assure that all the gifted will be accommodated. This totality concept is, and must be, broadly inclusive. It requires that we find ways to modify many of the current practices now characteristic of most schools in our nation and that we reconstruct and reorganize some to better respond to the special educational and related needs of the gifted. To provide thrust to such essential changes and to give guidance and direction to these significant processes, it is logical to presume that leadership, guidelines, and consultative services be a commitment of the state departments of education.

More specifically, the total development concept approach would take into consideration for review and adaptation processes which have already been well tested and authenticated by research findings. It would seek to reduce the time gap which exists between such evidences of the facts and the dissemination and implementation of these findings within the organized American school system. Some of these processes are noted below. They are not presented in rank order, nor is the list to be considered complete; it is, however, adequate to illustrate the potential of the total development concept for planning statewide provisions for the gifted.

1. Accumulation of timely and sufficient data through modern information processing procedures that will result in the collection, storage, updating, and accessibility of information about students. This would provide the capability for establishing a dynamic, sensitive, and reliable identification and selection process.

2. Expanded and continuing inservice education programs for teachers which emphasize the understanding and application of techniques for the development of productive thinking, and currently, development of more effective machinery for working with state teacher preparation institutions in the selection and training of talented and creative teachers to instruct and guide the gifted in problem centered curricula.

3. Improved accessibility, in sufficient amount, of essential support materials for use by both gifted students and their teachers. This would include such resources as rich library centers, electronic aids, laboratory facilities, and various visual aids.

4. Assurance of a sufficient supply of effective guidance and counseling personnel and services for all gifted in all schools from kindergarten through grade 12, in order to help them develop a clear definition of self and all that this implies for their learning experience and needs.

5. Expansion of existing syllabi in both depth and scope and construction of new ones to assure curricular guides specifically designed to involve the gifted in mental operations which go well beyond the usual exercises in cognitive and memory learning.

6. Implementation of flexible scheduling at all grade levels to assure greater opportunities for individualized and small group instruction and activities.

7. Broadened use of out of school resources, to include use of other educational institutions, campsites, cultural and scientific centers, and professional and lay organizations and agencies, etc.

8. Study and adaptation of ways for implementing well defined articulation procedures between school levels (elementary, junior high, senior high, colleges) so that educational experiences for the gifted can be planned as a continuing process which is developmental and spiral in structure and content.

9. Search for means to implement workable procedures which will provide an ever widening choice of available courses beyond the present standard college preparatory sequence. Broadening contacts, such as with the humanities and allied subjects, are needed to enhance the quality of the basic educational program for the gifted.

10. Development of guidelines for systems of evaluation, so that local schools can regularly assess, modify, and adapt their processes. These systems would encourage the sustaining of high quality programs and continuity in the growth of the individual student and his curriculum.

All this leads to the need for seeking legislative action at the state level. Local school districts, burdened with population bulges and construction problems, are at a loss to find finances to undertake such a total attack on the problem of adequately providing for their gifted students. Also, the reluctant attitude toward expanding federal aids and the controls these aids might imply forces local authorities to turn more and more to their own state legislators to support the necessary expansion and improvement of their educational programs. The total development concept emphasized here would require state aid and would create forces which would make state departments of education the most dynamic educational change agents in their respective states.

What are the guidelines for establishing a total development plan for legislative aid for the gifted in the state? Although the literature gives little help in this direction, I shall attempt to indicate what such a plan involves.

1. A state plan for legislative aid for the gifted should provide funds which will enable initiation, expansion, and improvement of programs and projects at the preschool, elementary, and secondary levels, and provide for their administration and supervision. These varieties of funded needs can be assumed to include acquisition of essential equipment and materials, construction of necessary facilities, training of local and state leadership personnel, and provision for adequate and available consultative services.

2. A state plan for legislative aid for the gifted should provide that programs and projects initiated, expanded, and improved should be administered either directly by the state department of education or by local school agencies with the approval and under the supervision of the state educational agency. The possibilities for cooperative responsibility should be encouraged and may include joint educational services operating among several contiguous school districts, state local arrangements, and even interstate projects and programs.

3. A state plan for legislative aid for the gifted should provide that programs and projects initiated, expanded, and improved with state funds will be designed to meet the special educational and related needs of all gifted children. Included would be instructional and auxiliary materials and services selected and developed to respond to the unique needs of these students, which would differ in degree and kind from those offered to the majority of children in the usual classrooms.

4. A state plan for legislative aid for the gifted should provide a qualitative as well as quantitative description of minimum provisions and should include an estimate of the essential additional materials, facilities, and services required to raise these minimum standards to assure adequate and responsive educational and related services. Sufficient size, scope, and quality should characterize the plan so as to give reasonable promise of substantial growth toward new goals.

5. A state plan for legislative aid for the gifted should provide continuing services and training processes for organizing and disseminating significant information to teachers and administrators of gifted children. Such information and materials as are derived from educational research literature, demonstration centers, special institutes and conferences, related professional studies and projects, etc., should be utilized and where appropriate made available to local school districts.

6. A state plan for legislative aid for the gifted should specify by a fundamental structured design the basis for identifying the gifted and the method to be used in prorating expenditures attributable to involvement in planning their program. The plan for funding should be so designed that it designates the amount or amounts to be provided by state aid to supplement and increase the level of aid already in operation.

7. A state plan for legislative aid for the gifted should provide means for

implementing effective procedures, not only for identification and selection purposes, but also for appropriate measurements of educational achievement. These would be administered regularly to evaluate the effectiveness of the local programs in meeting the special educational needs of the gifted.

8. A state plan for legislative aid for the gifted should, in cases of failure of local districts to comply with the provisions of the plan, include the right to withhold payment of funds until the state department of education is satisfied that the situation has been adjusted to comply with the provisions of the plan. Exercising such controls should give greater assurance that adequate educational services and activities for the gifted are being provided by the local districts.

THE RELATIONSHIP BETWEEN SELF CONCEPT AND CREATIVE THINKING OF ELEMENTARY SCHOOL CHILDREN: AN EXPERIMENTAL INVESTIGATION

Dorothy A. Sisk

Educators are just beginning to realize the important role that the self concept plays as a behavior determinant and its equally important role in mental health. Its impact on creative thinking is also becoming more apparent as more is learned concerning the creative personality and the factors involved in creative thinking. The relationship between intelligence and self concept has not been clearly delineated, although self concept does appear to mediate certain kinds of perceptions.

Although interaction among self concept, ability, and creative thinking has not been adequately investigated, inferences can be drawn from an analysis of characteristics of individuals who have been identified as being creative, possessing positive self concepts, or having high mental ability or aptitude. In many cases, these characteristics appear to be quite similar, thus indicating the possibility of general characteristics held in common by all three groups.

As educators have become more aware of their role in fostering self knowledge (Combs, 1962; Cate, Cunningham, and Landman, 1963), several theoretical propositions have been offered to further develop self knowledge. Maslow (Anderson, 1959) maintains that any technique which will increase self knowledge in depth should also, in principle, increase creativity by making available the inner sources of fantasy. He also sees this growth requiring courage and strength in the individual, as well as protection, permission, and encouragement from the environment.

Combs (1962) indicates that students must be free to have their own ideas, to express themselves, and to explore basically what they are. He views the classroom as a laboratory geared to self development, with teachers who are sensitive to feelings and values, and alert to encouraging the students to examine their ideas, thoughts, and feelings about themselves and others with candor.

Torrance (1965), in exploring the relationship between positive self concept and creative functioning, reports that development of self concept as it relates to one's creative powers is a continuous process and can be consciously developed. He found that through talking about their creative activities the students clarified and developed their self concepts as they related to creative functioning. Torrance suggests guidlines that educators might use discussing the students' creative writing with them (e.g., stressing such concepts as picturesque speech, vividness, humor, emotions, and curiosity).

The present study was designed (a) to provide experimental evidence concerning the influence of the self concept and ability on creative thinking as these operate singly and in interaction and (b) to investigate the feasibility of systematically developing programs which attempt to provide an environment designed to increase self knowledge. The major concern of this study was to investigate experimentally what effects exposure to an environment specifically planned to increase self knowledge had on the creative thinking of elementary school children. Selected theoretical propositions were implemented in actual classroom situations by the following general methods:

1. In order to free their own ideas, to express themselves, and to explore basically what they are, the students had oral and written exercises that dealt with topics that encouraged looking at oneself and how one feels about oneself, referred to as self knowledge exercises.

2. In order to clarify and develop their self concepts as they relate to creative functioning, the students had discussions that emphasized emotions and feelings. Students were encouraged to tell how they felt, and it was this material that they discussed with one another.

3. In order to provide relative freedom and safety of self expression, the students were called upon only if they indicated a desire to participate in the discussion, thus encouraging or emphasizing protection, permission, and encouragement. The teacher limited his interaction by neither agreeing nor disagreeing but merely leading the discussion.

Hypotheses

Four major hypotheses guided the present study:

1. Students who have had self knowledge exercises and discussion will show a significantly higher level of creative thinking on postexperiment measures ($p < .05$) than those students who have had either (a) nonself knowledge general topic exercises and discussion or (b) no exercises and discussion.

2. Regardless of experimental treatment, there will be a significant difference ($p < .05$) on postexperiment measures of creative thinking for students who have high self concepts and students who have low self concepts. The literature indicates that with intelligence controlled, self concept is often the crucial variable in achievement and success (Chickering, 1958; Shaw, 1963; Fink, 1962).

3. Regardless of experimental treatment, there will be a significant difference ($p < .05$) on postexperiment measures of creative thinking for students who have low ability. The literature indicates that up to a certain point IQ does make a difference in creativity, but that beyond the 95th percentile it does not seem important (Meer and Stein, 1955). In the present study, the correlation of high IQ with a higher level of creative thinking should be particularly evident on the measures of fluency, which depend on the number of ideas and are more affected by the factors associated with high verbal intelligence, such as memory and vocabulary. Originality and flexibility should correlate with IQ to a lesser extent, although again both measures are predicted to be higher for high IQ students.

4. Low ability students who have high self concepts will perform on experimental measures of creative thinking at a significantly higher level ($p < .05$) than low ability students who have low self concepts, while high ability students with low self concepts will perform at a lower level than high ability students with high self concepts. It was also hypothesized that the ordering of mean scores by self concept, treatment, and ability groups would be as follows: Students in the treatment which received self knowledge exercises would perform at a higher level on the exercises

than the other two treatments. The order within this group should be high self concept —high IQ; high self concept—average IQ; high self concept—low IQ and low self concept —high IQ doing equally well (high self concept should give the low IQ student an equalizing element with the high IQ student who may be hampered by a low self concept); low self concept—average IQ; and, last of all, low self concept—low IQ.

The same order should follow for the other two treatments, with students in the treatment that had discussion and regular exercises doing better than the control, as the discussion should have some positive effect on the students as they followed the same directions for freedom of expression, although the topics were of a general nature in contrast to the first treatment's topics on subjects dealing with self.

Subjects

The subjects consisted of a random sample of 15 classes of sixth grade students (N=400), with their 15 teachers, drawn from the total sixth grade population (N=908) of a small unified school district in southern California. The sample represented all segments of the community, which ranges from low socioeconomic, one family dwellings and high rental apartments.

The teachers of the sample (seven males and eight females) ranged from those who had taught from one to two years to those who had taught from seven to 10 years.

The sixth grade was chosen to avoid the creativity slump as reported by Torrance (1965) and Fleming (1962), in which there was a noticeable drop in creativity at the end of the third grade; and also due to the availability of appropriate test instruments at this grade level.

Instruments

The instruments used were:

1. Bills Index of Adjustment and Values (Bills, 1953; Bills, Vance, and McDean, 1951), which yielded a measure of self, acceptance of self, and ideal self.

2. Guilford Tests of Creative Thinking (Names for Stories and Ways to Use It) (Guilford, 1959), which yielded measures of fluency, flexibility, and originality.

3. California Test of Mental Maturity, which yielded a measure of general ability.

Procedures

A pilot study (N=57) was undertaken to determine whether the instruments were appropriate to the study. The appropriateness of the questions and the amount of time necessary to administer the instruments were determined.

Following the pilot study, the 15 classes of the sample were randomly assigned as class units to one of three treatment groups:

1. Those who participated in writing exercises and discussions on topics encouraging self knowledge.

2. Those who participated in writing exercises and discussions on topics which were general in scope.

3. Those who were given the tests on creative thinking and self concept without

any intervening treatments.

The teachers were contacted individually and the essays and general instructions for conducting the classroom discussions were distributed to groups one and two. Each lesson including 20 minutes of essay writing and 20 minutes of discussion conducted by the individual classroom teacher. There were five lessons, one lesson for each week in the five week experimental period.

At the end of the five week period, all subjects were given the tests, using Names for Stories and Ways to Use It as creative thinking measures and the Bills Index of Adjustment and Values as a measure of self concept. Students who attained a self concept score of 101 or above were considered high self concept students. (This score was used as it represents one standard deviation above the mean.) Those students who obtained a self concept score of 75 or below were considered low self concept students. (A score of 75 represents one standard deviation below the mean.)

A measure of general aptitude was obtained from the California Test of Mental Maturity (CTMM). These scores were available in the student's cumulative records. Ability groups were formed using this data. Students who attained a total IQ score of 125 or above on the CTMM were considered gifted or high ability students. (This score was one standard deviation above the mean, and it is also comparable to the cutoff point of most organized gifted programs.) Students who attained a total IQ score of 105-115 were considered average ability students. Those with scores of 90 or below were considered low ability students. (A score of 90 is one standard deviation below the mean.) The groups were equated for the number of boys and girls to counteract any sex differences that might have influenced the scores.

Three measures were available for each member of the sample: one score for self concept, one score for intellectual aptitude, and three separate scores for creative thinking—fluency, originality, and flexibility. These data were analyzed, using a 3 x 3 x 2 analysis of variance design to provide information about the influence of the self concept on creative thinking and the influence of ability and self concept on creative thinking, as they operated singly and in interaction. The design took account of three levels of ability, three treatments, and two levels of self concept.

Analysis of the scores was undertaken, using a full factorial analysis of variance design for unequal cells. The means; standard deviations; standard errors; _f_ ratios for homogeneity of variance and for significance of treatments and their interaction; and _t_ ratios were computed and evaluated for statistical significance.

Analysis of the Data

Comparison of the treatment groups on creative thinking. Table 1 presents an analysis of variance summary utilizing flexibility as the criterion measure. Intelligence, self concept, and treatment, as well as pertinent interactions are explored. It can be seen that three main effects (i.e., intelligence, self concept, and treatment) showed a significant relationship to the criterion.

Intelligence was found to be significantly related to scores on flexibility (.001), with self concept and treatment also indicating relationships that were significant (.05). The interactions were not significant.

Table 1

Analysis of Variance Summary Table: Flexibility as Criterion

Source	Sum of Squares	df	Mean Square	F	p
Intelligence (I)	480.275	2	240.137	16.49	.001
Self Concept (s)	59.850	1	59.850	4.11	.05
Treatment (T)	94.450	2	47.225	3.24	.05
IS	45.676	2	22.838	1.57	N.S.
IT	7.180	4	1.795	.12	N.S.
ST	58.127	2	29.064	2.00	N.S.
IST	39.861	4	9.965	.68	N.S.
Mean	2991.613	1	2991.613	205.46	
Error	1295.904	89	14.561		

Using fluency as criterion (see Table 2), only one variable, self concept, showed a significant effect (.001). Intelligence and treatment, which had shown significant effects using flexibility as the criterion, failed to reach statistical significance when fluency was used as the criterion.

Table 2

Analysis of Variance Summary Table: Fluency as Criterion

Source	Sum of Squares	df	Mean Square	F	p
Intelligence (I)	7.616	2	3.809	.29	N.S.
Self Concept (S)	91.977	1	91.977	7.03	.001
Treatment (T)	20.152	2	10.076	.77	N.S.
IS	1.705	2	.852	.65	N.S.
IT	43.386	4	10.846	.83	N.S.
ST	11.571	2	5.786	.44	N.S.
IST	63.342	4	15.835	1.21	N.S.
Mean	3221.613	1	3221.613	246.299	
Error	1164.129	89	13.080		

A third comparison was made using originality as a criterion (see Table 3). In this analysis, intelligence was significantly related to originality (.001), and there was also a significant interaction between self concept and treatment (.05).

In summary, intelligence was found to be significantly related to measures of flexibility and originality, but not to a measure of fluency. Self concept was related to measures of flexibility and fluency, but not to a measure of originality. Treatment was found to have a significant effect on a measure of flexibility. When originality was the criterion, there was a significant interaction between self concept and treatment.

Since intelligence was found to be significantly related to flexibility and originality, but not to fluency, a comparison of the levels of ability was studied for a clearer understanding of the relationship. These explorations are reported below.

Table 3

Analysis of Variance Summary Table: Originality as Criterion

Source	Sum of Squares	df	Mean Square	F	p
Intelligence (I)	62.764	2	31.382	11.67	.001
Self Concept (S)	5.757	1	5.757	2.14	N.S.
Treatment (T)	1.295	2	.647	.24	N.S.
IS	6.225	2	3.112	1.16	N.S.
IT	7.081	4	1.770	.66	N.S.
ST	17.785	2	8.892	3.31	.05
IST	15.992	4	4.00	1.49	N.S.
Mean	233.901	1	233.901	86.95	
Error	239.404	89	2.690		

Comparison of mean differences on descriptive and criterion measures between high and low ability students. Table 4 indicates the mean values, standard deviations, and *t* scores of self concept, treatment, fluency, flexibility, and originality for high and low ability students. It can be seen that high ability students have significantly higher means on two ratings, that of originality (.0005), and flexibility (.0005). Scores for high ability students were not significantly higher than low ability students on self, fluency, or treatment.

Table 4

Comparison of Means for High and Low Ability Students
on Self Concept, Treatment, Fluency, Originality, and Flexibility

Variable	High Ability (N=36) Mean	S.D.	Low Ability (N=32) Mean	S.D.	t
Self	1.44	.50	1.50	.50	- .45
Treatment	2.00	.89	2.25	.84	-1.18
Fluency	6.19	3.48	6.56	4.18	- .40
Originality	2.41	1.87	.56	.84	5.36*****
Flexibility	9.31	4.08	3.97	3.83	5.54*****

***** Significant at .0005 level (3.29 1-tailed test)

Comparison of mean differences on descriptive and criterion measures between high and low self concept students. As previously indicated, self concept was found to be significantly related to flexibility and fluency, but not to originality (see Tables 1 and 2). In order to provide information on the proposition that high self concept as opposed to low self concept is related to certain kinds of creative thinking, a comparison of the means for high and low self concept students was made (see Table 5). Since these analyses were post hoc, a more stringent critical value (.025) was adopted before interpretation of any findings was made. Students with high self concept had significantly higher (.005) mean scores on the measure of fluency, and significantly higher (.025) mean scores on the measure of flexibility. The mean scores on intelligence, treatment, and the third creative thinking factor of originality were not significantly different for the two self concept groups.

Comparison of mean differences on descriptive and criterion measures between students having self exercises and students having nonself exercises. Self concept and treatment were found to be significantly related to the criterion of originality (see Table 3). In order to understand this interaction more clearly, a comparison was made of the means of the variables between students who had self exercises and students who had regular exercises (see Table 6). Students who had self exercises had significantly higher means on measures of fluency and flexibility (.025) than students who had regular exercises. Originality was not significantly different in students who had self exercises and students who had regular exercises. Intelligence and self concept were also not significantly different.

Table 5

Comparison of Means for High and Low Self Concept Students
on IQ, Treatment, Fluency, Originality, and Flexibility

Variable	High Self Concept (N=44)		Low Self Concept (N=63)		
	Mean	S. D.	Mean	S. D.	t
IQ	2.00	.86	2.06	.76	- .40
Treatment	2.05	.89	2.05	.81	- .01
Fluency	7.07	3.71	5.21	3.46	2.66****
Originality	1.96	2.09	1.44	1.65	1.41
Flexibility	7.30	4.41	5.44	4.39	2.14**

** Significant at .025 level (1.96 1-tailed test)
**** Significant at .005 level (2.58 1-tailed test)

Table 6

Comparison of Means for Students Who Have Had Self Exercises
and Students Who Have Had Regular Exercises
on IQ, Self Concept, Fluency, Originality, and Flexibility

Variable	Self Exercise (N=35)		Regular Exercise (N=32)		
	Mean	S. D.	Mean	S. D.	t
IQ	2.17	.79	2.00	.72	- .93
Self	1.46	.51	1.31	.47	-1.21
Fluency	6.71	3.53	5.09	3.01	-2.01**
Originality	1.77	2.03	1.94	1.78	.35
Flexibility	7.77	4.40	5.50	4.22	-2.15**

** Significant at .025 level (1.96 1-tailed test)

Comparison of mean differences on descriptive and criterion measures between students having self exercises and students having no self exercises. Table 7 indicates that flexibility was the only mean that differentiated, statistically, students having self concept exercises from those having no exercises, or those who had only the nonself exercises. The students who had self exercises had higher scores on flexibility than the students who had no exercises.

Comparison of the means of high and low self concept students in the three treatments on measures of fluency, flexibility, and originality. In a comparison of various interactions on the creative thinking factor of originality, self concept was found to be significantly related to treatment (.05). In order to understand more clearly the interaction of self concept with the various treatments, a comparison was made of the means on measures of IQ, fluency, originality, and flexibility. A comparison of the mean scores for the various creativity measures revealed that students with high self concepts in the self exercise group had significantly higher scores on measures of fluency (.025) and originality (.01) (see Table 8). Although the mean score on flexibility was not statistically significant, it did approach significance.

Table 7

Comparison of Means for Students Who Have Had Self Exercises
and Students Who Have Had No Exercises
on IQ, Self Concept, Fluency, Originality, and Flexibility

Variable	Self Exercise (N=35)		Control Group (N=40)		
	Mean	S.D.	Mean	S.D.	t
IQ	2.17	.79	1.95	.88	-1.15
Self	1.46	.51	1.45	.51	- .06
Fluency	6.71	3.53	6.03	4.16	- .77
Originality	1.77	2.03	1.33	1.75	-1.02
Flexibility	7.77	4.40	5.40	4.48	-2.31**

** Significant at .025 level (1.96 1-tailed test)

Table 8

Comparison of Means of Fluency, Flexibility, and Originality
of High and Low Self Concept Students
in Self Exercise and Discussion Treatment

Variable	High Self Concept		Low Self Concept		
	Mean	S.D.	Mean	S.D.	t
IQ	2.00	.73	2.31	.82	-1.19
Fluency	7.94	3.31	5.68	3.45	1.96**
Originality	2.63	2.39	1.05	1.35	2.33***
Flexibility	9.00	4.03	6.74	4.53	1.55

** Significant at .025 level (1.96 1-tailed test)
*** Significant at .01 level (2.33 1-tailed test)

A similar comparison of high and low self concept students in the group which had received nonself knowledge general topic exercises and discussion indicated that high self concept students had significantly higher means on the measures of fluency (.025) than did low self concept students (see Table 9).

Table 9

Comparison of Means of Fluency, Flexibility, and Originality
of High and Low Self Concept Students
in Regular Exercises and Discussion Treatment

Variable	High Self Concept Mean	High Self Concept S.D.	Low Self Concept Mean	Low Self Concept S.D.	t
IQ	2.00	.94	2.00	.62	0
Fluency	6.60	3.44	4.41	2.59	2.00***
Originality	1.60	1.27	2.09	1.97	- .72
Flexibility	6.60	4.74	5.00	3.98	.99

*** Significant at .01 level (2.33, 1-tailed test)

When high and low self concept students in the group receiving no exercises or discussion were compared on the same factors it was found that there were no significant differences between high and low self concept students on any of the three factors (see Table 10).

An inspection of Tables 8, 9, and 10 shows that students who had high self concepts and who participated in the self exercises and discussion had higher mean scores on the three factors of creative thinking than did the students with high self concepts in the other two treatment groups.

Table 10

Comparison of Means of Fluency, Flexibility, and Originality
of High and Low Self Concept Students
in Control Group Receiving No Exercises and No Discussion

Variable	High Self Concept Mean	High Self Concept S.D.	Low Self Concept Mean	Low Self Concept S.D.	t
IQ	2.00	.97	1.91	.81	.32
Fluency	6.56	4.20	5.59	4.17	.73
Originality	1.56	2.12	1.14	1.39	.75
Flexibility	6.17	4.32	4.77	4.62	.98

Findings as Related to Hypotheses

Hypothesis No. 1. There were no statistically significant differences between the means of the three treatment groups using fluency and originality as criteria. The mean scores among treatment groups did differ, however, when flexibility was used as a criterion. A closer analysis of the specific treatment groups revealed evidence indicating that students who had self-knowledge exercises and discussion had significantly higher mean scores on fluency and flexibility when compared with students who had nonself-knowledge general topic exercises and discussion. However, these relationships did not hold when originality was the criterion. Also, students who had self exercises and discussion had significantly higher means on the factor of flexibility when they were compared with students who had no exercises and discussion, but there were no significant differences on the factors of fluency and originality.

In analyzing the scores, irrespective of statistical significance, the highest mean scores on the three factors of creative thinking were not all achieved by the group which received self-knowledge exercises, as was predicted. The group receiving the self-knowledge exercises did score highest on posttreatment measures of fluency and flexibility, but the group which received regular or nonself-knowledge general topic exercises and discussion had the highest mean scores on the posttreatment measure of originality.

In summary, then, the first hypothesis was only partially substantiated. The measures of creative thinking interacted independently of one another with the treatment groups. Flexibility was the only creative thinking factor that showed consistent significant differences among the three treatment groups. This finding points to the importance of viewing creative thinking as a multifaceted concept. The particular treatment that was planned to increase self-knowledge and thereby increase creative thinking appears to enhance only the creative thinking factor of flexibility. Specific plans to increase the factors of fluency and originality may involve different strategies. It is also possible that the short length of time was not sufficient to affect all the variables or factors of creative thinking equally.

Hypothesis No. 2. Self concept was found to be related to fluency, but not to flexibility and originality. A comparison of the means of high and low self concept students on the three measures of creative thinking revealed that high self concept students had significantly higher mean scores on fluency and flexibility than did low self concept students. However, the relationship did not hold when originality was used as a criterion. High self concept students had higher means than low self concept students on originality, but the differences between the means were not statistically significant.

Thus, a student may have a high self concept and be flexible (capable of shifting ideas) and fluent (ready with many answers), but not original. Fluency and flexibility are both derived quantitatively: Flexibility is the number of shifts of ideas; fluency is the number of ideas, regardless of quality. Originality, however, calls for ideas that are unique and unusual. Originality clearly calls for more than high self concept. It can be concluded that if one has a high self concept, he is more apt to be flexible and fluent, but not necessarily more original.

Therefore, hypothesis two was only partially substantiated, with high self concept students scoring significantly higher on two of the creative factors, fluency and flexibility, but not on originality.

Hypothesis No. 3. A general analysis of intelligence, and its relation to the three factors of creative thinking, revealed that intelligence was significantly related only to flexibility and to originality. Using high ability and low ability groups, the mean scores were found to be significantly different on the factors of originality and flexibility, but not on the factor of fluency. Average ability students received a statistically higher (.005) mean on originality than did low ability students, and they also achieved higher scores on flexibility, but the differences were not statistically significant. The average group did not do as well as the low ability group on fluency. Again, the problem of quantity versus quality in creative thinking is evident.

Hypothesis three was not totally supported since students with high ability received scores which were significantly different only on originality and flexibility.

Hypothesis No. 4. In general, it was predicted that self concept would interact with ability in predicting performance on the measures of creative thinking. Self concept and ability did not interact at a statistically significant level in predicting performance on any of the three criterion measures. Therefore, hypothesis four must be rejected.

Discussion and Implications

In summary, it can be stated that creative thinking is a complex domain. Studies which use a total creative thinking score combining three or more subfactors such as fluency, flexibility, and originality are losing much valuable data on the more complex interrelations among certain components of creative thinking and other variables.

It is important for educators and psychologists to improve teaching methods, to explore techniques for structuring the classroom environment, and to devise practical and efficient means for stimulating creative thinking. The treatment known as self-exercises and discussion which was used in this study had a clearly positive effect on flexibility, a mildly positive effect on fluency, and no effect on originality.

Originality, the qualitative aspect of creative thinking, may take longer to develop than the short term of five weeks would allow. On the other hand, it may be less amenable to development in all individuals and be more of a specific talent that one either has or does not have. It would appear that this last supposition has merit, since originality was found to be related to intelligence, with high intelligence or high ability students receiving statistically higher means on originality than low ability students, and average ability students receiving statistically higher means than low ability students.

It is also possible that specific plans for increasing the individual factors will need to be developed, and as this treatment had a positive effect on flexibility, other treatments may need to be devised to increase the factors of fluency and originality.

The role of ability was briefly touched upon in the discussion of the three treatments. However, in the light of the general trend in research on the gifted or high ability student to assume that those students have high self concepts, it should be pointed out that the present study found no significant relationship between ability and self concept.

High self concept was found to be related to flexibility and fluency. If one has a high self concept, he or she is then more apt to be flexible and fluent, but not necessarily original. The high score on flexibility achieved by students with high self concepts may be due to their willingness to list many answers; that is, with a high self concept they are apt to put down many different answers, whereas the less flexible individual lists many ideas, of similar vein, which may be less threatening.

Ability was related to flexibility and originality, but not to fluency. Originality comes close to the essence of creative thinking, since creative behavior involves the creation of something that is new or at least statistically infrequent. Fluency on the other hand call for the production of a large number of ideas, without a qualitative basis. The youngster merely lists the ideas. Clearly self concept becomes important here, as was indicated in the present study, since the student with the high self concept feels his ideas are worth putting down and eagerly expresses himself both on paper and in the classroom.

The importance of self concept in the functioning of the creative individual was substantiated to the extent that fluency and flexibility were found to be significantly related to self concept; whereas, intelligence was found to be statistically related to originality and flexibility.

There is no doubt that all three factors are important in today's rapid pace of cultural change and explosion of knowledge, and that the schools must develop a means of increasing both self concept and creative thinking. The problem for educators is to realize that creative thinking is multifaceted, and that a variety of individualized techniques may need to be devised to allow for optimum development of each of its components.

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AN INTERSTATE COOPERATIVE APPROACH TO FACILITATE STATE LEGISLATION FOR THE GIFTED

William G. Vassar

Today we are involved in many unique and innovative approaches to the solution of problems in American education. Today we must face boldly and profoundly the fact that education for all pupils in all of our schools will be structured on a cooperative partnership for the advancement of education. We must realize that the states of the United States offer great national resources in education, designed for diversity, experimentation, and innovation, in a system that makes it possible for success to feed upon success to feed upon success when programs and ideas are transmitted with ease across state and regional lines on a nationwide basis.

There is a growing ferment in the states, a new willingness to tackle difficult problems. There is a new, accelerating desire to reaffirm the role of the state educational agency as a viable part of the federal system.

The states have a tremendous role to play. One of the chief legal responsibilities of all state legislatures is the education of its children and youth. Education is both the end product and the most foreseeable of any state government. And in many ways, the future of the states will rest on the pivotal question of whether or not they will be able to make the sacrifices and meet the demands of the American people for educational excellence as well as the demands of the fast approaching age of implementation of many of the innovations now on the horizon.

Today, the federal government is participating in the education of our children and youth on a permanent and increasingly active basis. Traditionally, the states have had the major responsibility for education, but now we are coming to realize that education is too important to be left to the haphazard chance of unconnected state and local efforts. It is also too complex to be left to a single guiding federal hand.

To strengthen the states' capacities to meet the needs of the great society in which we live, there must be new, creative and innovative devices for state action in the education of our nation's most precious possession—its human resources. If the states fail to take action with a profound degree of urgency and sense of responsibility, they will forfeit their best chance to shape the course of this nation, and all educational opportunities for our children and youth will be less because of this forfeiture.

I think the time has come for the states to grasp this opportunity to act in concert—to join in an exciting, new innovative vehicle: an interstate cooperative approach to quality legislation for our most able children and youth.

Public education is often regarded by some as a dominant social force in the development of a democracy, by others as a bulwark of national security, and by still others as a means of increased economic returns to the individual and to the state. The states, bearing as they do a heavy responsibility for provision of public elementary and secondary education, face an accelerating need for sufficient funds to provide adequate educational programs and equality of educational opportunity for every child. A number of individual states have made significant progress within the framework of their own socioeconomic situations, but little has been done to develop a cooperative attack on the educational provisions and problems of our brightest children and youth.

Valid criticisms have been made that educational resources are not equitably distributed and that inefficiency in their use is prevalent. Equality of educational opportunity and educational excellence are familiar slogans of politicians and do-gooders, but these objectives have been paid only lip service in many areas of our nation, especially in implementation of programming for our most talented pupils. The states have accepted the responsibility for providing public elementary and secondary school systems; therefore, if they are to remain "senior partners" in the provision of public education, they should attack all major educational problems cooperatively rather than individually. I submit that education of, and legislation for, our most able children and youth is a major educational problem. I submit that one of the most important functions of interstate planning is to make it possible to solve this type of educational problem on a cooperative basis.

The major problem to be analyzed and studied is how the various states can develop legislative and fiscal patterns which will provide adequate funds from state, local, and federal sources to promote the development of a dynamic and responsive policy for education of our most able pupils—a policy which maintains state responsibility for providing this education and which is in tune with the economy of the various states in this cooperative venture. This latter dimension means that the legislative programs affecting the gifted must be viewed within the larger setting of operation in the state and in the local school districts, including such things as economic bases, revenue sources, taxation programs, etc. Such research implies the need for intrastate as well as interstate cooperation. Achievement of these two types of cooperation at an acceptable working level is probably the prime challenge to interstate cooperation.

We must realize that any interstate approach to cooperative action would not have authority, nor would it be expected to set policy. It would merely be the means of developing legislative alternatives for policy decisions which must ultimately be made by local and state legislative policy-making bodies. It would furnish the states with the best available information on legislation for the bright; it would suggest appropriate goals to be met by pending legislation for the gifted; it would serve to exchange information on legislation implemented in other states and suggest appropriate legislative alternatives for particular states; and it would serve to advise state educational agencies on the pitfalls and failures of previous legislation and how they might be avoided in the future.

As we continue to develop this interstate relationship, we must never forget that though each of us may represent a different perspective in education, we all share the belief that we live in an explosive era when a massive effort must be made to improve the education of our brightest pupils without losing the perspective of the education of all children and youth. We must forge, for the future, the type of cooperative effort that will bring about the type of educational system that will give breadth and depth to American ideals of excellence and equality, and pump new blood into the mainstream of American hopes.

We are approaching one of the most important decades in the history of our nation—a time when both individual fulfillment and national survival confront us in the classroom. It will be an explosive period in the education of the gifted, when new techniques, bold experiments, and newly conceived institutions will be blossoming in almost every state in the union.

The primary direction and support for education should come from the states. If we are to grow as a nation, the states must rise to the challenge of giving the very best that is possible in our classrooms for all types of youngsters. We know that the federal government cannot do the job that has to be done. We will compound the confusion if the states fail to work together and in concert with the federal level. We have observed a vast increase in federal funds, and we have observed many a tangled mess that required the cooperative, new, and energetic action of states to straighten out.

States could agree to join together for the general improvement of education of the gifted and specifically to investigate possible implications for legislation concerning the gifted. These interstate groups could assemble studies, suggest legislative alternatives, collect data, disseminate information, and in general serve the individual states as a stimulus for state action in legislation for gifted pupils. Good, sound, legitimate legislation for the bright pupil at the state level can only come about if the states join together to plan this legislation. Without such cooperative planning we will be unable to meet the challenge of the decade we face.

There are numerous problems involved in the planning, structuring, and implementing of the proper type of legislation for gifted pupils. Some of the questions involved are:

1. Should legislation be submitted under curriculum or under the umbrella of special education or education of exceptional children?

2. What group, if any, should the legislation define (1 percent—very bright; 10-20 percent—academically talented) and should it be specified for talent in the creative arts, the performing arts, specific age groups?

3. Should the legislation be mandatory or permissive? What are the implica-

tions for either, the implications for teacher training, and the implications for implementation?

4. Should legislation involve the matching funds concept or the excess cost concept?

5. What is the relationship of the potential legislation to existing statutes?

6. Is the legislation general enough to allow the state board of education to implement it properly at the local level?

7. Should the tuition factor to private schools be considered?

8. Should transportation costs be involved?

9. If excess cost is part of the legislation, what would be considered excess cost?

10. What factors have to be considered when planning the proper appropriations of monies (state administration of program; personnel at local level to implement legislation; instructional materials; transportation)?

11. What is the relationship of average per pupil cost to matching funds or excess cost?

12. Should the prepayment concept to cities and towns be considered? (Most legislation provides for monies being returned to the school districts after the districts have completed the implementation.)

These questions could be answered in relationship to the individual state by presenting a group of alternative actions to each of the questions.

This vehicle of interstate planning is not to be considered one for action; it will have to be considered as one that may stimulate action state by state, by providing necessary legislative information which is not now available. The need is for a new approach to the study of potential legislation—an approach which places no binding factor on the states, but provides what they need to act wisely.

A number of states are considering the possibilities of legislation for the gifted or creative pupil and wondering whether to follow the legislative plans of State A or State B. There is no study in depth of the experiences of the different states in this matter. There is no way in which a state now considering this special legislation can obtain reliable and complete information from other states which have had many years of experience. I do not hope for the day when the pattern of gifted program legislation would be the same in every state. I believe in diversity between states, and diversity we will continue to have. But we should have a vehicle by which each state can know what other states have done in this area and the arguments pro and con for any changes which are being considered. We should have a vehicle by which individual states could rapidly exchange information and plans for legislation pertaining to differentiated education of the gifted. California and Illinois have outstanding state legislation to provide for the needs of their gifted children. Both states utilize somewhat different approaches and rationales, but I am sure that the experiences alone of the professionals in both of these states could go a long way in assisting other states in structuring legislation for gifted pupils.

In recognition of the differences among states and groups of states, an interstate group could conduct a series of seminars involving legislators, lay leaders, and educators in an intensive dialogue concerning legislative patterns for gifted pupils. By following this procedure, educational support patterns can be formulated in a more objective fashion than in the traditional pressure-prone lobbying activities which accompany legislative sessions. During these seminars, common concerns will undoubtedly emerge which can provide direction for further research efforts. These seminars can provide states with resource information which should be of assistance as future legislative support programs for the gifted are developed.

Since 1964, when only 13 states provided full time consultants, we have advanced, in 1967, to 17 states with full time personnel and three states already budgeted for full time consultants in the next fiscal year. This group has a formidable organization called the Council of State Directors of Gifted Programs, which has available a great wealth of knowledge in legislation to bring about interstate cooperation for quality legislation.

In addition to the functions already suggested, such an interstate planning group could assist in making provisions for federal cooperation and participation. It could work closely with current voluntary professional organizations or national and regional associations in implementing federal legislation. This specific phase would be needed to assure that there would be a minimum of overlap and duplication between federal and state legislative provisions for the gifted.

Two years ago at the Annual TAG meeting, Ned Bryan discussed the implementation of PL 89-10 for the education of the gifted. An interstate cooperative group could do much to properly implement Titles I, III, IV and V to supplement state legislation for the gifted in a number of our states.

At the present time, the Council of State Directors of Gifted Programs is designing a project involving the interstate cooperation of a number of states to structure better programs for differentiated education of the gifted. This project will be submitted under Section 505 of Title V of PL 89-10, which allows the US Commissioner of Education to pay part of the cost of experimental projects for developing state leadership which holds promise of making a substantial contribution to the solution of problems common to the state educational agencies of all or several of the states. I am optimistic enough to feel that the rationale of this project could lead to one of the major breakthroughs we have needed in differentiated education of the gifted; I feel this way because it is based on the concept of interstate cooperation for implementation of federal legislation. Those professionals who have been involved in writing the project are or have been extremely involved in some of the best state legislation written for the education of the gifted in this country. This is truly interstate cooperation for legislation for the gifted in action. Another example of an interstate cooperative vehicle is the New England Educational Assessment Project (NEEAP). The project was designed by 6 New England commissioners of education under Section 505, Title V, PL 89-10, to provide state departments of education in New England with the vital statistical information and data collection techniques necessary for the development of improved educational programs. The project found that individual states working alone sometimes found difficulty in maintaining adequate self-assessment programs.

A group of five states in the northeast have met informally to discuss the implications of state legislation for the gifted. One of these states has legislation for the talented, and two others have legislation pending. A sixth state will join when a full time consultant is named in the fall of 1967. This group has also been discussing a cooperative assessment project with NEEAP on education of the gifted in general and with long range legislative objectives in mind.

How would this or any other interstate cooperative approach facilitate legislation for the gifted? I feel that vehicles such as the Council of State Directors project, NEEAP, and a number of other groups could accomplish a partnership between groups of states or eventually among all fifty states, and this partnership would provide:

1. A stimulus for more state action in the education of the gifted.
2. An interchange of information, ideas, and successful legislation across state lines and regions for the benefit of all states.
3. A vehicle to collect, correlate, analyze, and interpret data for use by individual states in structuring quality state legislation for gifted pupils.
4. A means of assembling a task force of the best and the most experienced opinions on state legislation for the gifted.
5. A vehicle to encourage states to fulfil their role in this often neglected area of special education.
6. A vehicle on which individual states could call for specialized assistance in structuring legislation for gifted pupils. We need to work out a system of interstate cooperation that brings all of our resources to bear on sound legislation for the gifted.

I am not suggesting centralized control of gifted legislation. This is not the kind of cooperation we need, nor is it the kind we want. But we need an approach more comprehensive than that provided by each state working in isolation. We need to work out cooperative relations among the various levels of government to determine which legislative activities are appropriately carried out by the states and which by the federal government.

I would suggest that the primary responsibility of this interstate vehicle would be one of service rather than domination; that the vehicle will assist us in working cooperatively to pursue quality legislation for the nation's brightest children and youth, and thus help in mustering the qualitative human resources we need.

PROGRAM EVALUATION IN DIFFERENTIAL EDUCATION FOR THE GIFTED: MYTH AND REALITY

I. WORDS AND ACTION IN THE EVALUATION OF PROGRAMS FOR THE GIFTED

Virgil S. Ward

Purpose of the Symposium

The general purposes of this session are to invite attention to particulars in the process of program evaluation and to stimulate thought and hopefully action in this important aspect of differential education for the gifted. The material medium through which these general objectives will be sought is a report upon the design and construction of an experimental set of rating scales which have been developed by Ward and Renzulli, and critiques by Burnette, Kelley, Plowman, and Rogge of the applicability of these scales to existing programs of special education for the gifted. The following is a brief perspective on the problem.

Education as a Fairy Land

Education in the United States, while rightfully recognized as high in priority among the nation's social functions and one of its biggest business confederations, is at the same time in some respects a literal fairy land. Myths abound, pat generalizations and comforting platitudes sustain the profession year after year in the face of starkly contradictory facts and real conditions. Note how universally we hold to the verbalized ideal that "the organization of the school reflects the needs of children at various developmental levels," and yet how readily we shift grades and levels in response to availability of plant space and to community pressures such as those concerning school racial composition. We blandly concede that "the school program follows from the objectives of the school" when explicit statements of said objectives are conspicuously absent and observed relationships between programs and existing objectives suggest parallel existence, rather than integral. And of course the time honored dictum that "first you plan the program and then you construct the building to accommodate it" exists in the face of rare instances where a projection of program actually is arrived at in any significant form.

Special education for the gifted is not without its mythology. Certain of the above contradictions are reflected in the particular field as well, and still others can be readily noted. But the particular myth with which we are specifically concerned is that of program evaluation. What the textbooks say is that "the plan for evaluation is developed as an integral part of the program." Now this facile generalization might actually be argued on grounds of principle, if this were the time for it, but we must observe here that what is done by way of evaluation is quite another story. Clear and defensible plans for evaluation of any rigorous sort are extraordinarily rare. Dr. Renzulli in his research found no more than six actual documents on the subject in state departments of education and local school systems. And I believe that only one published instrument, that of Passow and Brooks, is available for the purpose. Obviously, in view of the sizable number of schools in which some form of educational provision for gifted youth exists, program evaluation either does not exist or has very low visibility. Of course the more rigorous the conception and implementation, according to both the dictates of special education and behavioral science, the rarer still is the frequency likely to be.

The present effort at evaluation has been undertaken in the belief that this function is in fact as important as the verbalizations contend, and that the infrequency of carefully erected plans for program evaluation has contributed substantially to retarding the development of a science of differential education for the gifted.

The instrument which Mr. Renzulli and myself have developed is based upon an explicit rationale and procedure which respect theory involving individuals having superior qualifications for judgment in this problem area, and respect practicality in the simplicity and economy of design. But the investigators hope further that using the evaluation scales will expose certain further myths (a fuller treatment of which must await the anticipated publication of the instrument) and certain of the superfluities and superficialities which characterize much of the literature and activity in this field.

II. DESIGNING AN INSTRUMENT FOR EVALUATING PROGRAMS OF DIFFERENTIAL EDUCATION FOR THE GIFTED

Joseph S. Renzulli

Introduction

The difficulty of validly appraising the effectiveness of educational programs poses a serious and longstanding problem for those persons who have undertaken the responsibility of educating the nation's youth. In the area of education for the gifted, the problem of formal program evaluation has been compounded by the absence of appropriate means explicitly designed to evaluate the particularized objectives that guide and direct the learning experiences of gifted individuals.

The literature on the gifted reveals a striking contrast between a nearly universal plea for program evaluation and a near dearth of analytical and procedural studies attempting to bring this problem into manageable proportions. In developing the present instrument, an attempt was made to fill the significant gap that exists between what is widely called for as desirable (i.e., program evaluation) and feasible procedures through which the evaluation of programs of differential education for the gifted (DEG) can be achieved.

Logic Underlying Design of the Instrument

The purpose of the instrument is to provide a practical means by which educational programs for the gifted may be evaluated. In view of the absence of external criteria capable of distinguishing between varying degrees of program quality, an attempt was made to develop an instrument based on the reflective judgment of a small but eminently qualified group of insightful educators who are students of the subject of differential education for the gifted.

This rationale is based on the belief that research into problem areas for which the significant variables and processes have not been readily defined and made subject to control must first satisfy and be guided by forms of inquiry that are essentially rational in nature. Rationality in the form of human judgment is always an acceptable beginning for the process of structuring a problem area for empirical attack and is a necessary procedure for devising particular methods and techniques for scientific research. Although empirical procedures have been utilized in certain phases of the present endeavor, initial and central dependence on the validity of the instrument is based on the judgment of persons who are considered to be representative of the best thinking presently available in the field of education for the gifted. The opinions derived from a small but select group of persons who have demonstrated an exceptional degree of interest and achievement in this field are considered to be substantially more consequential than opinions gathered en masse from a larger but minimally involved group. The statistical advantages that may be derived from large scale polling do not suffice in a design which demands that content validity be represented in the initial input. Qualitative judgment, systematically and selectively procured, is manifestly a more promising basis for program evaluation than the wholesale solicitation of opinion from persons who have not been totally immersed in the problem.

Procedures in Constructing the Instrument

The procedures employed in constructing and judgmentally validating the experimental instrument consisted of the following interrelated steps.

First, the literature dealing with program evaluation in various areas of education was searched in order to identify the principal aspects of the problem and to locate relevant information and ideas that might prove useful in developing the present instrument. This initial step also included a nationwide survey which was aimed at locating all existing instruments in use at state and local levels for purposes of evaluating special programs for the gifted. Information resulting from this search was selectively utilized in carrying out certain of the procedures that follow.

The second step involved the selection of a panel of 24 expert judges. This task was accomplished by first identifying, according to a number of specified criteria, a larger group of persons who have made certain contributions to the field of DEG, and by asking this group to nominate, from among themselves, those persons whom they considered to be the most qualified for judging the adequacy of educational experiences for superior and talented students.

Procedurally, the third step consisted of isolating a number of basic characteristics or key features of programs for the gifted. Key features may be thought of as a basic core of minimally essential elements that represent the best practices of mature and excellent programs designed to meet the needs of gifted individuals. The concept of key features represents an essential part of the rationale upon which the Ward-Renzulli scales are based. Out of the entire span of characteristics upon which any educational program might possibly be evaluated—from the quality of the classroom teacher to the adequacy of the supplies and materials, certain program characteristics are manifestly more consequential than others. With respect to the whole array of practices and provisions that possess potential although varying degrees of value in furthering the objectives of DEG, the concept of key features holds that the evaluation of a minimal number of highly significant features will facilitate the evaluative process. The rationale is that, if the more essential features of a program are found to be present and operating excellently, then the probability of less significant and critical features being similarly present is good. In this manner the process of program evaluation is simplified by allowing main concentration on a few highly significant variables and avoiding the methodological difficulties of interrelating and scaling a host of lesser program characteristics. These lesser characteristics, which often take the form of detailed and specific practices, are acknowledged to be desirable but not necessarily essential. In other words, in the presence of key features that are both necessary and sufficient, the inclusion of lesser characteristics in an evaluation is likely to be cumbersome and wasteful.

Although the concept of key features does not offer a solution to the problem of assigning numerical values of relative importance to varying program features (i.e., weighting), it does guard against the danger of assigning equal merit to characteristics with vastly divergent degrees of worthiness.

The first step in the process of isolating key features consisted of developing a relatively comprehensive list of general features, elements, and processes that represent identifiable dimensions within programs of DEG. This list was based upon those dimensions of differential education which have received considerable and continued emphasis in both the general literature on the gifted and that segment of literature dealing more specifically with programs and program evaluation. The list was submitted to the panel of judges with the requests that (a) they rank, in order of importance, the features which they considered to be the most necessary to a worthy program, and (b) they stop ranking when that number of features had been reached which, if present in an actual program, would assure a program of good quality.

The results of this inquiry were tabulated by means of a pooled frequency rating technique and the features which emerged as being relatively more essential than the others formed the central subdivisions around which the scales of the instrument were developed. The key features, listed in the order that they were ranked by the judges, are as follows: the teacher, the curriculum, student identification and placement, philosophy and objectives, and general staff orientation. These are indicated by the letters A through E on Figure 1.

The fourth step in constructing the instrument was the actual construction of the scales of the experimental evaluative instrument. For each key feature identified by the panel of judges, one or more program requirements was formulated. Program requirements may be thought of as generic expositions of certain theoretical principles or axioms of DEG that are found in the literature and that depict ideally conceived educational practices for exceptionally endowed students. They do not pertain to any given pattern of organization but rather to excellent practices presently operating (either individually or in varying combinations) and practices that can and should be inaugurated in view of the behavioral potential of gifted students. (The focal points of the 11 program requirements are indicated on Figure 1.) It is recognized that in the application of theory to practice, few, if any, existing programs will attain the ideal stature specified in the program requirements. However, the usefulness of the program requirements lies in the function they serve as "benchmarks of quality" or points of departure from which graduated sets of standards could be derived. Viewed in this context, the program requirements themselves may be thought of as principles having particular reference to each program dimension upon which the instrument is focused.

Figure 1

Evaluation Scales for Differential Education for the Gifted (ESDEG)

(Experimental Form, 10-67)

			Ideal	Superior	Commend-able	Neutral	Negative
KEY FEATURE	A:	PHILOSOPHY AND OBJECTIVES					
Program Requirement	1:	Existence and Adequacy of a Document.............	___	___	___	___	___
Program Requirement	2:	Application of the Document........................	___	___	___	___	___
KEY FEATURE	B:	GENERAL STAFF ORIENTATION					
Program Requirement	3:	System Wide Support.............................	___	___	___	___	___
KEY FEATURE	C:	STUDENT IDENTIFICATION AND PLACEMENT					
Program Requirement	4:	Validity of Conception and Adequacy of Procedures...	___	___	___	___	___
Program Requirement	5:	Appropriateness of Relationship between Capacity and Curriculum.......................	___	___	___	___	___
KEY FEATURE	D:	THE CURRICULUM					
Program Requirement	6:	Relevance of Conception..........................	___	___	___	___	___
Program Requirement	7:	Comprehensiveness.............................	___	___	___	___	___
Program Requirement	8:	Articulation.....................................	___	___	___	___	___
Program Requirement	9:	Adequacy of Instructional Facilities................	___	___	___	___	___
KEY FEATURE	E:	THE TEACHER					
Program Requirement	10:	Selection...	___	___	___	___	___
Program Requirement	11:	Training	___	___	___	___	___
		TOTAL	X3=	X2=	X1=	X0=	X-1=
		TOTAL SCORE	___				

Each program requirement served as a focal idea around which a set of five scale standards was developed. The scale standards are practices or provisions that are derivatives of the respective program requirements and that have been arranged according to positioned degrees of quality along a five interval hierarchy. The verbal tags, ideal, superior, commendable, neutral, and negative were affixed to each set of scale standards. Numerical values ranging from three to minus one were also assigned. The verbal tags are meant to facilitate constructive interpretation of the instrument. The numerical values similarly affixed also are intended mainly for descriptive or communicative purposes, no attempt having yet been made to construct a numerary value system based on scale theory.

In view of the absence of discrete standard units in the psychological and social sciences, the selection of a five interval ordinal scale represents a compromise between other potentially operable scales that could have been adopted. An effort was made to construct a functional scale that, in addition to differentiating sufficiently between highly desirable practices and those with neutral or negative value for programs of DEG, would recognize and give credit to the sincere efforts of well intentioned people who have attempted to make some provisions for their gifted students. Hence, there are three degrees of positive quality above the merely neutral provision. The negative value is included by virtue of the supportable fact that despite good intentions some practices thought useful for gifted students are actually undesirable or otherwise unjustifiable.

Finally, the experimental instrument was presented to the panel of judges in an attempt to determine whether or not each of the program requirements and scale standards was sufficiently well conceived and structured to allow differentiation in use by qualified observers in the process of evaluating programs of DEG. The judges were asked to accept or reject each item, and in those instances where individual judges believed that improvement in an item was essential to its validity, they were further requested to express their reasoning.

The responses of the judges to this final inquiry were tabulated and a composite of their reactions and suggestions was incorporated into the experimental edition of the instrument (Figure 1).

Preliminary field testing of the experimental instrument has recently been completed by Burnette, Rogge, Plowman, and Kelley, and their reactions which constitute the third and final part of this symposium will hopefully lead to further refinements in the scales.

Conclusion

In conclusion, I would like to emphasize that the instrument here described, or any instrument that is based solely on the judgment and beliefs of individuals, is valid only to the extent that its effectiveness can be demonstrated in actual practice. Thus, the present endeavor is offered as the necessary first step of a continuous movement toward the implementation of practical efforts to evaluate programs for the gifted. The present product must be recognized as a purely experimental instrument until additional investigation and field testing designed to meet the well known mandates of measurement theory are carried out.

III. CRITIQUES FROM FIELD TESTS OF EVALUATION SCALES FOR DIFFERENTIAL EDUCATION FOR THE GIFTED

Critique One: Eugene Burnette (abridged)

The purpose of this report is to describe one phase of the process being used in the refinement of the assessment tool, Evaluation Scales for Differential Education for the Gifted. From a total population of 329 classes of exceptionally talented students in North Carolina, 26 schools were selected for the application of the scale. The selection of the 26 schools was made on the basis of geographic as well as grade level distribution. In addition, three state department consultants used the scale in either eight or nine different classes.

Before the application of the scales, the staff of the Division for the Education of the Exceptionally Talented held several conferences in an attempt to come to an agreement on the meaning of each of the variables listed in the scales. This possibly led to some rater reliability. However, these meetings pointed up the fact that more work should be done in an attempt to operationally define each of the listed variables.

The consultants who applied the scale were all persons who had several hours of college work at or above the master's degree level in the area of the gifted. Each had spent considerable time in the capacity as a state consultant of the exceptionally talented program. In addition, each of the consultants had a fairly thorough knowledge of the research and literature that deals directly with the education of gifted students.

A closer look at the 26 classes shows that all students possessed the following characteristics:

1. An IQ score of 120 or higher on some measure of intelligence.
2. Achievement test scores above expected grade level.
3. Had been assigned to these classes on the basis of teacher recommendations.

Each of the Classes had presented a plan for instruction to the Division for the Education of Exceptionally Talented Children based on the following factors:

1. Evidence of eligibility of children.
2. Curriculum to be offered including goals that were different from those to be to be found in regular classes.
3. Qualifications of teacher.
4. Plans for supervision.
5. Plans for evaluation.
6. Plans for succeeding years.

Results

The results from the combined reports revealed a slightly skewed distribution to the "Ideal" side of the scale as indicated by the following data:

Categories: Ideal: N = 15, Superior: N = 83, Commendable: N = 125,
Neutral: N = 50, and Negative: N = 7.

It will be interesting to see the combined data when the N has been greatly increased. The results from Requirements 1-11, showed our greatest strengths to be in Requirement 7, 9, and 10, with our weaknesses in 1, 2, and 3.

The major asset of the scale seems to be its attempts to utilize variables that have values which are acceptable in programs for the gifted, as well as its approach to a specificity that can be handled in assessing such programs. In addition it seems to be a positive step away from the general impressionistic judgments that are so often found in educational assessment.

Though the scale has possibilities, additional suggestions are made. There should be added to the "Requirement" dimension of the scale a category labeled "Student outcomes." I would suggest that the Requirements 1-11 have value only if "Student outcomes" are shown to be different from those shown in a regular class. This additional Requirements dimension would be one way of determining the validity of the scale. However, other measures would need to be found to determine the validity of the measurement tool.

One major problem that can be attacked, with little additional effort, in reviewing and evaluating programs is the accuracy with which the same (or different) raters will assess the programs.

Critique Two: Robert Kelley (abridged)

This critique, which includes both objective and subjective information, presents the outcomes of five program evaluations made with the EDSEG during the first three months of 1967.

Sample and design.

Five New York State school districts which have special programs for their more able pupils were asked to cooperate in an effort to evaluate this new instrument. It was suggested that the effort would be mutually useful since they would receive an evaluation by an outside expert, while I would be able to compare my ratings against their self analyses. All five districts agreed to cooperate. Table 1 describes their make up. I spent two days in each district observing classes and conducting interviews. Opinions were gathered from teachers in the programs, teachers not in the programs, parents. supervisors, and administrators.

Table 1

School	Type	Grades included in program	Years program has been in operation
A	City	4-6	8
B	City	5-7	3
C	City	7-9	5
D	Suburban	1-6	10
E	Suburban	4-6	6

At the conclusion of each visitation I exchanged my evaluation summary form for the coordinator's evaluation summary form as agreed.

Relationship between assessments made by outside and inside evaluators. In each of the five districts, the program coordinator was asked to read through the ESDEG material and then rate his own program as objectively as possible. Table 2 shows how these local ratings on the summary form compared with my outsider ratings. The numbers shown are those suggested in the ESDEG: +3 for ideal through -1 for negative.

Table 2

Comparison of Ratings on ESDEG Summary Form
Made by Local and Outside Evaluators

	School A		School B		School C		School D		School E	
	Loc.	Out.	Loc.	Out.	Loc.	Out.	Loc.	Out.	Loc.	Out.
Req. 1	3	2	2	2	2	2	2	2	1	2
Req. 2	2	2	1	1	1	2	2	2	1	2
Req. 3	2	1	0	0	1	-1	1	1	1	1
Req. 4	3	2	3	2	2	2	2	2	2	2
Req. 5	3	2	3	0	3	2	1	1	2	2
Req. 6	2	2	1	1	2	2	2	2	2	2
Req. 7	3	2	2	0	2	2	1	1	1	2
Req. 8	3	2	1	-1	2	2	1	0	1	1
Req. 9	2	2	1	1	3	2	2	2	1	2
Req. 10	3	2	2	2	2	2	2	2	2	2
Req. 11	2	2	2	1	1	-1	1	1	2	1
Totals	28	21	14	13	21	16	17	16	16	19

It is difficult, at first glance, to see any patterns in the table. In four cases the outsider's evaluation was more severe that the local rater's evaluation, but seldom were any specific ratings more than one standard apart. I feel that the local raters would have rated their own programs even higher if they hadn't known that they were going to have to share their ratings with me.

Comments made by local coordinators. The general reaction to the ESDEG was one of interest and pleasant surprise. The instructions were understood and properly followed. Pages 8-18 were constantly referred to while the coordinators were checking the summary form. The only thing that caused confusion was the mechanics of scoring. Page 7 was completely confusing to every coordinator and three of the five were confused by the "X3", "X2", etc. near the bottom of the summary form.

Recommendations

1. Keep the explicit descriptions of the standards that appear on pages 8-18.
2. Rewrite scoring procedure or perhaps eliminate numerical scoring.

Comments

While I must admit that my reactions to the scale are based on very limited experience, I do feel well acquainted with this instrument. By the time the third program evaluation was completed, I had established a successful pattern for interviews and was able to translate my observations into ESDEG rating with little or no difficulty.

Some of the most worthwhile outcomes of the five observations came during the critique at the end when I compared my ratings with those of the local coordinator. A great amount of learning took place in both directions. I gained greater insight into the local program (the behind the scenes kind of things that my own observations couldn't uncover) while the local coordinator profited from my frame of reference which was much wider than the boundaries of his district. Even if a school couldn't have an outsider participate in a cooperative evaluation effort, I would like to suggest that whenever possible, two independent ratings should be made on the scale and later compared.

The largest area of concern on my part regarding the ESDEG stems from my value judgments. I find myself completely in accord with the design and philosophy of the instrument until we reach the Summary Form and the suggested scoring system.

I made a few attempts at ranking the eleven requirements in order of importance but got nowhere because they all fit into the "necessary but not sufficient" category. Still, they are not all equally necessary. Today in New York State the greatest need for DEG programs is to strengthen Requirements 5 and 8, particularly 8. I happened to have chosen five of the best programs in the state for my sample, but most of all the New York State gifted programs would get a -1 for 8 and, in my estimation, be close to worthless no matter what ratings they could earn for Requirements 1, 3, 9, and 10. Perhaps in another state or at another time the priorities would be different, but even so, I cannot imagine that all the requirements would be equally important.

In conclusion, I believe these scales fill a real need and have been assembled into a very workable scheme. I fully intend to use these scales in any future evaluation I do.

Critique Three: Paul D. Plowman (abridged)

On December 20, 1966, a letter was sent to superintendents of ten school districts inviting their participation and the participation of their districts in field testing these scales. A copy of the scales was attached. The letter (a) indicated the need for an instrument or procedures for evaluation of various aspects of program provisions and planning for differential education, (b) described developmental activities conducted in preparation of the scales, and (c) stated that the field testing procedures and process might be worthwhile as an aid to internal evaluation as well as to the refinement of the scales. Assurances were given that names of participating districts would not be identified with the data.

A separate letter was sent to a select group of persons who had national or statewide recognition in the area of gifted child education, inviting them to serve as volunteer outside independent evaluators. These persons were told that the process might involve about two days of their time. Great interest was shown in the scales. Schedules of some of these persons, however, precluded their participation.

Districts invited to participate in the field testing of the scales had had sophisticated gifted child education programs for a minimum of five years. Two districts involved both an outside independent evaluator and their directors of the gifted child education program. Two other districts evaluated their present program without the assistance of outside personnel. Included in this report are evaluative comments of three directors of programs for the gifted who were making personal rather than district appraisals of the scales. Thus seven directors of programs for the gifted and two outside independent evaluators made observations on the scales.

Orientation meetings were planned for the persons directing the district programs and for the outside independent evaluators, but it was necessary to cancel these meetings. However, this did not appear to be a major problem because of the background, competence, and limited number of persons involved. Phone conversations (on lease line) were used to answer questions and to make suggestions on the use of the scales. Also, the possibility of divergent approaches in field testing might be considered an advantage. Suggestions for refinement of the scales might then be placed on more extensive tryout conditions.

The most important factor in the evaluation process in the use of the scales is the competence of the evaluators. It is also important to note that district personnel may be somewhat sensitive about being graded for not having been able to finance programs which they themselves see as ideal and would support if sufficient funds were available.

There is merit in having evaluations made by different persons and to compare agreement and differences in their perceptions.

Field testing of the type indicated should be preceded by meetings with the superintendent and with all the personnel involved.

Strengths

Some of the strengths which the scales show are:

1. A limited number of key features. This allows district personnel an opportunity to focus on aspects of program evaluation and program improvement that will make a significant difference.

2. Program requirements that are conceptually sound as operating principles and which may be applied to different types of programs in different types of communities.

3. A graduated set of scale standards which serves as points of reference and appraisal.

The concept of key features, while not in hierarchial order, does provide focus.

Some persons involved in the use of the scales thought them to be a very complete guideline for evaluating programs for gifted students.

In addition to serving as useful bases for observation and evaluation, the scales also provide bases for recommendations that might be made in improving key features and basic requirements in given school districts.

One of the districts reported that use of the scales tended to emphasize that district's own handbook on the academically gifted child and thus led to a better understanding of efforts at implementing the district's own program.

The scales hold up for closer scrutiny criteria of excellence formulated or adopted by school districts and state departments of education.

Weaknesses

A district evaluation committee felt that the requirement for Program Feature C did not lend itself well to the California conception of giftedness. Although the district could rate itself as ideal as judged by California standards, it could not rate itself as ideal based on the standards established for this instrument. Another respondent indicated that as a matter of practical concern school districts in California should work within the manageable limits of the definitions of giftedness and approved programs established by state criteria.

One outside independent evaluator and a district director of programs for the gifted were concerned about the fact that no questions on the evaluation process were included in the scales.

The scales were difficult to complete by districts which had truly differentiated education for the gifted by providing a number of different types of programs. One of the districts did have seven different programs. Another district overcame this problem by applying the scales to each of its three programs: acceleration, enrichment, and resource teacher program.

Another director of programs for the gifted, also in a district that has had considerable experience with gifted child programs, indicated the following:

> Thank you for the evaluation scales prepared by Ward and Renzulli. They are quite impressive. Use of these would be no small job.
>
> I think my primary criticism would be that the degree and value of the evaluation depends on the personal knowledge and depth of understanding of the evaluator. Under "Relevance of Conception of Curriculum," for example, it would be possible for a variety of curricular programs to be rated as "ideal" but still represent a wide range of appropriateness.
>
> I guess I am trying to say that although the requirements described are important, I feel the authors have omitted the very things that are really fundamental to a program. I'd rather see definition of higher level cognitive processes, a la Bloom's Taxonomy than so much emphasis on public relation features.
>
> This is a hasty summary. Maybe I am being too harsh. I may change my mind after I use the scales.

Critique Four: William M. Rogge (summarized)

Instead of reporting in a written paper detailed reactions to the scales as constructed, Dr. Rogge spoke from notes indicating a general disaffection with this approach to evaluation and indicating approaches which in his judgment are superior.

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Concluding Note: The principal investigators are grateful for the extensive preparations and the time and thought given to the task by those assisting in these field tests. It is regrettable that the critiques could not be presented in full. The collective body of cautions and criticisms, however, provide a valuable resource for further refinements in the scales, and they will be used to that end.

The authors intend in time to seek publication of the scales when further tested and refined. Until announcements of this fact can be made, however, Dr. Joseph S. Renzulli, Assistant Professor of Education, University of Connecticut, Storrs, Connecticut, will be pleased to correspond with individuals interested in cooperative use of the necessarily limited supply of mimeographed instructions and copies of the Evaluation Scales for Differential Education for the Gifted.

ABSTRACTS

SUCCESSFUL TEACHERS OF GIFTED HIGH SCHOOL STUDENTS

William E. Bishop

A study was conducted to analyze selected characteristics of high school teachers who were identified as successful by intellectually gifted, high achieving high school students in order to discover what differentiates these teachers from teachers not so identified. Data were obtained from three groups of teachers from throughout the State of Georgia. One study group included 109 teachers who were selected by at least one gifted student as his "most successful" high school teacher. The students who selected the teachers were high school seniors who had participated in the first Governor's Honors Program in Georgia during the summer of 1964. For the second study group. 97 teachers were selected at random from a list of teachers who had formerly taught students in the first Governor's Honors Program but had not been selected by any student as his "most successful" teacher. The third study group included 30 of the identified teachers who were selected for intensive study. This group was a stratified random sample of the total number of identified teachers.

Every teacher in the study completed a copy of the Teacher Characteristics Schedule (TCS)developed by Ryans. Questionnaires were completed by the students who had selected the teachers for the study. These questionnaires provided extensive data concerning the identified teachers. Additional data on the stratified random sample of identified teachers were collected from the following sources:

1. Personal interviews.
2. Wechsler Adult Intelligence Scale (WAIS) (verbal scale).
3. Edwards Personal Preference Schedule (EPPS).
4. College transcripts.

Results

The identified teachers differed significantly from the nonidentified teachers on five of the nine patterns of classroom behavior and teacher characteristics estimated by the TCS. The variables on the EPPS which were most characteristic of the stratified random sample of identified teachers were Achievement and Intraception. The identified teachers' mean verbal IQ on the WAIS was 128, with a range of 117 to 148. Their mean grade point averages in professional education and major academic courses at both the undergraduate and graduate levels were between 3.0 and 3.5 on a 4.0 system.

Conclusions

Teachers who are identified as successful by intellectually gifted, high achieving high school students:

1. Tend to be mature, experienced teachers.
2. Are mentally superior themselves.
3. Have high achievement needs and evidence high achievement levels.
4. Pursue literary and cultural interests.
5. Are student centered in their teaching approach.
6. Possess favorable opinions of students.
7. Are characterized by systematic and businesslike classroom behavior.
8. Are stimulating and imaginative in their classroom behavior.
9. Are well informed and enthusiastic about their subject matter.
10. Encourage students to engage in independent study and thought.
11. Prefer to teach gifted students.
12. Favor special educational provisions for gifted students.

THE APPLICATION OF GAME THEORY IN TEACHING THE GIFTED

Barbara B. Hauck

This intervention study was designed to test whether the evaluative thinking abilities of gifted children could be significantly improved by using specially designed classroom lessons. A nonequivalent experimental control group design was used, with 19 sixth graders in each group. The subjects were selected from special classes for the gifted and matched for age, sex, socio-economic status, race, and pretest scores. Each subject was pretested and posttested on five Aptitudes Research Project semantic evaluation tests and on Taba's Social Studies Inference Test, which measures the ability to infer and discriminate.

Classroom lessons presented to the experimental group were designed to stimulate evaluative thinking behavior as it is inferred from the Guilford Structure of Intellect model. Each lesson was based upon establishing appropriate mental set, presenting the evaluation lesson according to game model theory, and providing constant feedback. Independent study sheets were left with the children after most of the classroom sessions. A different evaluator role was presented daily. The roles were based upon a presumed relationship to the specific evaluation factor being stressed and provided motivational value. As the child mentally assumed the role and began playing the game, he participated in various kinds of evaluation tasks.

The findings of the study indicated that scores on two evaluation tests increased significantly at the .05 level; performance on three other evaluation tests also improved but did not reach the .05 level of significance. Correlation between IQ level and amount of gain in evaluative ability was statistically insignificant, undoubtedly because of the restricted intellectual range of the sample. Pretest evaluation scores apparently were related to the amount of gain between pretests and posttests, since students with the higher pretest scores showed significantly greater gains after the lessons than did those students with the lower pretest scores. Girls made significantly greater gains on the logical reasoning test, while boys made significantly greater gains on double descriptions and class name selection. There were no sex differences on the other tests.

The experimental group again showed substantial increases on three of the tests in a followup testing one month after the posttesting. Increases in evaluative thinking ability for the experimental group between the pretests and the followup tests were statistically significant for all factors except logical reasoning. This appears to suggest that, in the absence of continued instruction, improvement may continue to be made as a result of having established a mental set for evaluative thinking and as a result of the independent work.

For further research, it is suggested that the study be replicated using a considerably longer intervention period and both older and younger subjects of all ability levels.

PROJECT SELF DISCOVERY

William Watson Purkey, Sr.

Like Antaeus, giant son of Neptune who renewed his strength each time Hercules threw him to the ground, the concept of self has emerged anew as an exciting concept in psychology and education. As Hamachek (1965) says, "Today, one cannot pick up a textbook in psychology, psychiatry, mental hygiene, counseling, or child development which does not deal, at least in part, with the idea of the self and the implications of this construct for understanding and predicting human behavior.

The purpose of Project Self Discovery is to employ the concept of self systematically in order to provide the bright but underachieving student with experiences which will teach him more about himself and show him that he really counts and is capable of responsible independence and accomplishment. Project Self Discovery is a do-it-yourself kit for the bright but underachieving high school student, the student with high mental ability whose performance is significantly below his potential as measured or demonstrated.

The major hypothesis of this study is that the tendency toward underachievement in many bright students stems from deeply entrenched negative attitudes toward self. These negative attitudes are reflected in (a) lack of self confidence, (b) inadequate social relationships, (c) lack of perseverance, (d) inadequate expression, and (e) inadequate philosophy of life. These five categories serve as foci for 12 discrete but interrelated units of Project Self Discovery.

Each of the 12 units of the project consists first of a relevant reading on a select body of perceptual principles dealing with such topics as interpersonal relations, self confidence, individual differences, feelings, and self discipline. The reading is designed to point out the personal significance of the unit and enlighten the student about himself, his perceptions, and his relations with others. Each reading is followed by a Self Discovery Exercise writing assignment, designed to involve the student actively in the project and provide immediate reinforcement for the ideas presented in the reading. These reading and writing exercises deal with real and pressing problems of the student. Further, an attempt is made to make them entertaining and humorous by using cartoons, check lists, photographs, self inventories, projective devices, and other materials.

Each SDE can be easily removed from the project manual and submitted to the project counselor, who may be a school counselor, a teacher, a school psychologist, or a university counselor for home study by mail. The project counselor serves as a sympathetic reader, or foil, against which the student reflects his ideas and feelings. It is not what the counselor writes or says to the student that is important, but rather what the student thinks and writes about himself. The counselor returns the SDE's to the student so that the student may replace them in the project manual for future reference.

In keeping with the basic hypothesis of the project, every effort is made to minimize threat and maximize respect. For example, no grades are given; there are no time limits, tests, or requirements. Further, students must volunteer for the project, and once they volunteer, their writings are held in confidence by the project counselor. In every way, the project attempts to convince the student that he is a person of worth and dignity and is capable of responsible independence and accomplishment.

Objective Evaluation

So far, Project Self Discovery has been introduced to over 100 high school students in the Florida public schools. Of these, one group of 24 was given the Self-Ranking Inventory (an instrument designed to measure outwardly professed personality characteristics) before and after completing Project Self Discovery. Significant differences (.05 level or greater) were found on five of 18 variables considered. Changes in a positive direction occurred in "sociability," "responsibility," "communality," "good impression," and "socialization." There were no changes in a negative direction.

Under USOE Grant 6-1334, now underway at the University of Florida with the writer as principal investigator, over 300 bright (75th percentile or higher on SCAT) but underachieving (C average or lower on academic subjects) high school students were identified in a number of Florida High Schools. From this pool, 120 subjects were randomly selected and equally divided into experimental and control groups. Both groups were tested with the California Psychological Inventory (Gough, 1956) and the Self Ranking Inventory, an instrument designed by the investigator, the categories of which parallel those of the California Psychological Inventory. In October, 1966, subjects in the experimental group were introduced to Project Self Discovery and invited to undertake the project. Approximately 85 per cent of the students in the experimental group volunteered. As of March 15, 1967, 40 of the 51 members of the experimental group had either completed the project or were on their way to finishing.

In May, 1967, the 60 members of the control group and the 51 members of the experimental group will again be measured with the California Psychological Inventory and the Self Ranking Inventory. Efforts will be made to ascertain differences, if any, in test-estimated personality characteristics, outwardly professed personality characteristics (including self appraisals), derived measures of self-insight, grade point average, and counselor, teacher, and peer evaluations.

Subjective Evaluation

Evaluations from teachers and guidance counselors who were connected with the project were uniformly favorable. Also, students who have completed the project rated it highly.

Conclusion

Although it is still early in the project, results so far would seem to question the notion that bright underachievers are unmotivated. In fact, these students are highly motivated to pursue work when they see it as personally enhancing. The underachievers in this study are doing the considerable work of the project under their own power, without external pressure. It would appear, then, that when threat is minimized, respect maximized, and self discovery encouraged, the pattern of behavior of bright underachievers can be changed in a positive and favorable direction.

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BEHAVIORAL DISORDERS

THE TRANSITION FROM THE ANIMAL LABORATORY TO THE CLINIC

Charles B. Ferster

I will discuss my experiences on a project at the Linwood Children's Center, a day care and residential treatment center for autistic and schizophrenic children. Since my competence is mainly in animal experimentation, my work at Linwood, in collaboration with the clinical staff, represents one kind of transition from the animal to the human laboratory. At Linwood we are looking to the laboratory to find more effective treatments and better teaching methods.

The bridge between my general knowledge about behavior and practical knowledge about children began when I observed Linwood's clinical staff, particularly the director, Miss Simons, who is an especially gifted therapist. One incident was an interaction between Miss Simons and Karen, a four year old autistic girl. Karen had been in day care at Linwood for about two weeks during which she spent most of her time clutching a plastic doll and crying. Miss Simons placed Karen on a rocking horse where she stayed without crying as long as Miss Simons rocked the horse and sang to her. After a few minutes, Miss Simons stopped rocking the horse for brief periods but kept on singing. She carefully sensed how long she could stop rocking the horse without losing control of Karen. The return to rocking always followed some behavior other than crying. In general Miss Simons stopped rocking the horse whenever she judged that Karen's behavior was strongly maintained by some current factor, such as playing with the handles of the rocking horse. Next, Miss Simons took the plastic doll from Karen's hands, set it on a nearby table, and quickly moved the table next to Karen who promptly picked up the doll. One would guess that under other circumstances taking the doll away from Karen would lead to screaming. Although Karen was without the doll for a few seconds, this situation provided the basis for the reinforcement of a specific constructive piece of behavior, reaching for the doll. This was the first time that Miss Simons required some behavior of Karen. Now Karen moved the rocking horse slightly, and Miss Simons's singing usually occurred contingent on the rocking. When Karen sat quietly, Miss Simons simply watched, smiled, and hummed gently. When Karen rocked, Miss Simons sang in rhythm to the movements of the horse. Then the episode with the doll was repeated, but this time the movements were a little slower and Karen was without her doll for a few seconds longer. When Karen returned to rocking, Miss Simons sang in rhythm. Soon Karen placed the doll on the table herself. This probably occurred because the behavior controlled by the rocking horse was becoming prepotent over that controlled by the doll. Also, it was difficult for Karen both to clutch the doll and to hold the handles of the rocking horse. Karen continued rocking without the doll for over a minute, as Miss Simons sang along. The magnitude and rhythm of the rocking were quite vigorous. Next Miss Simons kept silent for brief periods while Karen rocked. Technically this was intermittent reinforcement of the rocking. At this point Karen turned to the doll, possibly because she was less inclined to rock the horse when Miss Simons did not sing. But in picking up the doll Karen dropped it to the floor, perhaps accidentally, and for the first time during the episode, she began to cry. Miss Simons asked, "Do you want to pick up your doll? I'll help you," and extended her hands to Karen. When Karen touched Miss Simons's hands, Miss Simons clasped Karen's hands and helped her from the rocking horse. When Karen did not lift her foot over the saddle, Miss Simons simply held her there until she made some movement. When Karen did not move, Miss Simons prompted the behavior by moving the foot partially over the saddle and allowed Karen to complete the final part of the action. Miss Simons then held Karen in the vicinity of the doll until Karen picked it up, and once more she offered her hands as she said, "Do you want to get up?" Karen lifted her hands in the gesture which many children characteristically use as a demand for being picked up, but Miss Simons simply continued to hold her hands out until Karen touched them. Back on the horse, Karen now rocked without Miss Simons's singing. Once again she dropped her doll and the same episode was repeated. This time Miss Simons supported the behavior slightly less than she had on the previous occasion. Next Miss Simons placed the doll on a couch about fifteen feet away. Karen stopped rocking for a few seconds while she looked at the doll, but then began to rock again, and after about a minute Miss Simons picked up the doll, attracted Karen's attention by tapping it, and sang in rhythm to the tapping. Karen made some sounds and began rocking the horse in the same rhythm, possibly in response to the tapping. At this point Miss Simons returned the doll. Karen had been away from it for over a minute without crying. However, the next time Miss Simons took the doll away and placed it on the couch, Karen began to cry even though she continued to rock. Miss Simons sang in rhythm to the rocking and the crying stopped. At this point Miss Simons herself took Karen off the horse, and they walked over to the sofa where Karen picked up the doll and sat on Miss Simons' lap. A minute later Karen indicated some disposition to get on the horse again by tugging on Miss Simons. Miss Simons did not take her to the horse, but instead picked her up and hummed to her as she carried her about. Several times Miss Simons picked up Karen, smiled, and sang to her, but she did not place her on the horse.

The whole interchange lasted about 30 minutes, during which several hundred reinforcements altered Karen's repertoire substantially. In contrast to food reinforcement, in the usual animal experiment, very simple features of the child's environment were manipulated very skillfully and rapidly in a symphony of action. Even though these behavioral processes were the same ones that I knew from animal and human laboratory experience, I discovered many new ways to control and influence the behavior of these children as I observed this and similar episodes. Although I saw applications of every principle of behavior I knew, there was a content here that could not come solely from laboratory experiences. I could make a functional analysis of the interaction, but I could not have designed it.

It is interesting to note the unusual way in which Miss Simons weakened the doll's compulsive control of Karen. She waited until Karen's behavior was strongly controlled by other reinforcers so that she could remove the doll for brief periods. She very slowly lengthened the intervals during which Karen was without the doll by pacing them with the development of these other behaviors. At no point during the intervention was crying directly extinguished in the sense that we carry out extinction in an animal experiment. With my limited experience with children I might have kept Karen on the horse until her crying stopped before I handed her the doll or lifted her off. When Karen dropped her doll and began to cry, Miss Simons reacted immediately and used the doll itself as the reinforcer for generating a small increment in the child's repertoire. Instead of simply extinguishing the crying Miss Simons identified the operant reinforcer maintaining it and began to apply this reinforcer differentially in favor of behaviors other than crying which she judged to be more useful to the child. The extinction of the control by the doll and the extinction of the crying were byproducts of the reinforcement of other behaviors. In the meantime, the amount of crying and emotional states were kept small enough so they did not disrupt the new repertoire.

It was not practical to interact with Karen on the rocking horse all day, so Miss Simons anticipated the next step by extinguishing performances reinforced by the rocking horse at the same time that she supported Karen's behavior in another way. For example, when they were sitting on the couch, Miss Simons did not reinforce Karen's gesturing toward the rocking horse. Instead, she picked her up and interacted with her via body contact and singing. I don't know what Miss Simons would have done if Kathy had struggled in her arms and continued gesturing toward the horse, but I suspect that Miss Simons already had gauged the probability of this when she shifted the reinforcer.

In many other instances it appeared at first glance that primitive behavior was being reinforced. But after more observation I discovered that extinction was being carried out in a new way.

Another example is the boy who teased Miss Simons by pulling her hair. When Miss Simons continued to give him her full attention, I wondered why she didn't simply withdraw, since it was so clear that the annoying behavior was reinforced by her attention. But when I looked more closely I saw that Miss Simons was holding both her hair and the boy's hands so that all the boy was pulling was her hands. Furthermore, she released her grip on him only when his performance shifted in a direction that she wished to reinforce. This was another example of extinguishing a performance by finding another that would be prepotent over the one that was annoying. In this case the reinforcement was negative, the removal of the restraint she applied.

Miss Simons was amazed at how closely she was able to see herself in the notes describing her interaction with Karen. She said to me, "I don't see how you can understand therapy. It takes years of training to do this." But I did have clinical experience even though it was with infrahuman organisms. In my animal experiments I dealt with each subject as an individual. During the course of the experiment the conditions were changed continuously in pace with the subject's performance. I learned the fine grain of my organism's behavior, and as an experimenter I responded to the details of it. Rarely was an animal too deviant to work with. I always looked for the factor responsible for each animal's uniqueness and tried to take it into account. Each pigeon differed as to how much grain was necessary for reinforcement to maintain an adequate amount of behavior. The height of the key or lever had to be adjusted for the size of the animal, and the transition from one schedule of reinforcement to another was always a unique affair, carefully adjusted to the animal's current performance, even though the general form of the final performance was common to all of the animals. Each animal was different in many ways and the goal of the experiment was to find a common factor beyond the individual characteristics of each subject.

The observations that I made were not solely for my benefit. Miss Simons' amazement at my close description of her encounter with Karen came partly because of the difficulty she had in conveying her procedures to other people. Despite Miss Simons' consummate skill with the children, other staff members fell far short of the mark, and they did not learn simply by watching her. Nor was she able to instruct them verbally. Terms such as "keep your antennas out" or "watch for the health in the child," often eloquent descriptions for those of us who appreciated a fine grain analysis of behavior, did not help the staff in actual procedures with the children.

Perhaps a quotation from a recent talk by Miss Simons will suggest the impact of a technical language about behavior on her work. "I think I can explain little step by step procedures now so that people don't just look blindly at me with awe. I'm not even sure intuition is so mysterious. I think it's having eyes all over the place and seeing the tiny little things that children are doing and then suddenly the child reacts to it. And I am able to see the tiny little steps and explain much better what I am doing with the children so the magic is out of Linwood—which I think is wonderful." Now she has an objective language that is simple and concise enough for everyone to understand. To supplement Linwood's magic there is a training program in the experimental analysis of behavior. It is a key part of the project. The course was designed to make more effective and inventive therapists and we constantly experiment with ways to improve it. The main emphasis is on a detailed technical analysis of animal behavior, because we have found that facility and skill in the fine grain technical description of animal behavior makes it possible for therapists to systematically observe the details of the complex natural environment.

The differential reinforcement of other behavior (DRO), is an example of animal data and procedures which influenced almost every therapist who took the training course at Linwood. In the context of DRO, they understood how Miss Simons weakens primitive behavior by positively reinforcing other performances.

The functional analysis of her interactions with the children also changed Miss Simons' practices. As she became more self conscious about her own activities, she saw more clearly which parts of her complex interchange with the child were having particular effects and, accordingly, refined her activities and increased the frequency of effective contingencies. Small hour by hour increments in the child's repertoire became reinforcers for her as she learned to observe the fine grain of the interaction with a child.

Yet another consequence that came from learning a systematic language about behavior was an increased ability to design new ways of activating the child's environment. Reinforcement theory and a technical analysis of verbal behavior have led to new procedures in the schoolroom never before used at Linwood. For example, children who have never done so before are now taking part in classroom educational activities. Part of the reason for this has been the use of chains or sequences of behavior so that a child goes on to the next activity such as writing after he demonstrates that he can read a short text perfectly.

In summary, I want to describe how the clinical staff at Linwood and I have modified each other's behavior. In general we have found less benefit from literal methods from the animal laboratory than we have from a systematic and objective description of behavior. A systematic language about behavior allows the clinic to use its own special knowledge and experience more effectively.

At first the Linwood clinicians feared conditioning because they thought of the usual laboratory situation where the experimenter determined the behavior to be developed. When they thought of applying operant conditioning to children, it appeared arbitrary, immoral, and at the expense of the child's development. They discovered, however, that they, with their intimate clinical knowledge of the child, still decided what behaviors were to be developed. Principles of conditioning simply aided them in working more effectively.

From my point of view as an experimental psychologist, the reverse lend lease has provided "grist for my mill." The phenomena I dealt with in the animal laboratory now are a design in an actual fabric and I find many theoretical challenges in our frequent discussions and observations of the children.

DISCUSSION OF C. B. FERSTER'S PAPER

J. L. Cameron

When one reads Dr. Ferster's paper, one rapidly sees that he had the good fortune to be in a quite unique environment. He was observing a most unusual individual in the course of that person's work. The unique quality of the individual and his work was that it represented a course of successful treatment for children suffering from autism.

Autism, which was originally described by Dr. Kanner of Johns Hopkins Hospital in the early 1940's, is a most intractable condition. In the 1950's Dr. Kanner heard an account by Dr. Darr of the Washington Psychoanalytic Society of treatment with an autistic adult. After he had heard what Dr. Darr had to say, Dr. Kanner observed sadly, "I have always wondered what happened to autistic children, now I know. They become autistic adults."

After approximately 18 years of experience in attempting to treat major mental disorders by a variety of techniques, I have finally come to the conclusion that the essential feature of all major mental disturbances is in its purest form in the condition known as autism, hence my interest both in studying Linwood and in working with Dr. Ferster. Since the activity of an autistic individual specifically excludes speech as it is normally understood, it is obvious that any form of treatment which will be successful with the autistic must be based on modalities of activity other than talking. This does not mean that at some point training and communication by language will not be an integral part of the therapy. You will notice that in the accounts given by Dr. Ferster of the activities of the therapist there is an exquisite and minute, gradual building up of the child's performance. The whole process, as you probably will have noticed in the account in the paper, is most exciting to anyone who watches it. The most important point is that the therapist who was being observed is, in fact, an individual who is successful in treating autistic individuals. This is why Dr. Ferster and I are observers in the institution watching Miss Simons and the rest of her staff.

Much of what we observed was most delightful. Some of it, on the other hand, was more inclined to make one a little sad. There was an enormous contrast between the activity of Miss Simons with the children and the activity of most of the other staff members. I do not mean that they were not well intentioned and enthusiastic, or that they lacked some level of formal theoretical education and training. The truth of the matter was that Miss Simons' skill was a somewhat unique phenomenon which had not been written up as a technology in any way. As Dr. Ferster mentioned, even Miss Simons' comments contained a magical quality as, for example, "You have to keep your antennae out. It's like having radar in the back of your head." Another frequent statement was "You have to develop a relationship." All of these statements contained a quality of truth to them, yet they are not the kind of statement from which one can learn, particularly if one has no real experience in such a field. Miss Simons expressed amazement at Dr. Ferster's analysis of the interaction. "I think it's intriguing," she stated. "I don't see how you can understand therapy. It takes years of training to do this." However, for the acquisition of the particular skills being discussed, at this point there is nowhere a quick formal training, though there is a great deal of fundamental human knowledge and wisdom developed by various clinical experts and others who have worked in the field.

One thing which Dr. Ferster does not mention with regard to Miss Simons is that she is an extraordinarily acute observer of the children's behavior. Apparently, however, Miss Simons was not at all clear that this was what she did. She did not use some kind of radar set, but used her eyes and her ears and her nose and the perceptions which she had made in a highly skilled way from the sensory data so acquired. She then utilized these perceptions to produce immediate interventions into the child's activities. It seemed to me, as another observer in this situation in which everyone was busy observing everyone else, that it was of maximum importance for everyone to appreciate and to learn first a high level of observational skill.

At this point, I must for the first time take a slightly different tack from the one which Dr. Ferster follows in his paper. It certainly seemed to me that the main difference between Dr. Ferster's activity and Miss Simons' activity was that he was fully conscious as he made the extraordinarily accurate observations of her exquisite therapy. Consequently, I think that the first thing for us to do would be to try to train the staff and myself in the technique which Dr. Ferster used, rather than to attempt to produce very quickly a highly specialized and skilled therapist. I do not mean, of course, that it would be any easier to produce another Dr. Ferster than it would be to produce another Miss Simons. Both are extraordinarily skilled and expert in different fields. However, as I have already mentioned, Dr. Ferster is quite self-conscious in his technique of observation. Consequently, the best person to develop training in that field is Dr. Ferster himself. Accordingly, we planned an intervention in Linwood which was as self-conscious and as deliberate as we could make it. The staff was trained in the functional analysis of human behavior, so that they could not only watch their small charges and their own interactions with them, but they could also observe Miss Simons and for the first time learn properly what she was doing. The educational technique which we developed and which we are still developing will, I hope, ultimately be useful in the mental health field, especially in the training of that all important group, the aides.

Training Course

The course consists of approximately 18 folders, each containing about twenty pages of written material and focusing on examples of behavior from animal experiments, from the normal child and adult environment, and from clinical and educational problems. These examples of the use of technical forms are developed progressively with principles of behavior as described in technical language. The descriptions are designed to help the student observe the critical events and identify the relevant behavioral processes. After the student has learned to use the technical terms with some fluency, he then, at the end of each folder, engages in discussion with one of the course instructors to improve his fluency so that he can relate the various technical terms to each other and can appreciate how they differ from the common language. This process of engaging in discussion with the course instructor is designed to demonstrate to the student his own increased skill and also to demonstrate to him any areas in which it may be necessary for him to reread the material. When the student has satisfied himself that he is ready to proceed to the next folder he tells the instructor so. This specialized interview situation is termed a probe.

It can be seen that this training course has a more ambitious goal than merely to teach an observer to observe. Its hope is also to teach people to intervene after observing and to be more self-conscious in their interactions. Nonetheless, we do think that the first step is merely to observe in a new and more accurate way.

This training course has had some success in Linwood and elsewhere. Currently in a new type of setting using a modified technique, Dr. Ferster and I have been trying out the system upon a group of people varying from an expert psychoanalyst on the one hand, to three housewives, on the other. After completing the first section of the first folder, a young business man, who had no previous acquaintance with psychology of any type, said to me, "Dr. Cameron, now I understand something that has been causing me a lot of trouble. My little boy has become frightened of going aboard the new boat which we have. As time went on, he seemed to get more and more frightened. Now I think I understand something of what has been happening. It seems to me that in our concern my wife and I were reinforcing this behavior of his rather than helping him by extinguishing it or reinforcing something else." I think it will not be very long before this father, having made such an observation, will manage to deal with his child's and his own worry in a way which will be mutually satisfactory.

Of more relevance to the Linwood project is a report given to us in the past month or two by a staff member who had left the institution to work for an organization which was teaching children. Reporting as someone who had been close to our activities, she made a special trip back to let us know something of what she now felt she had learned from us. She told us that she had been quite startled as she moved through a series of different classrooms to realize that she could now understand very clearly why one school teacher had a very noisy classroom as the weeks went past, why another school teacher had a very quiet and subdued classroom, and why a third one had a classroom in which there was a moderate amount of noise but a great deal of studying and work being done by the children. She found herself rather embarrassed, too, because she was not able to say to the various pedagogues what she was observing because she was sure that her observations would be taken as criticism of a particular teacher rather than as merely a functional analysis of the classroom behavior. Consequently, patterns developed in the various groups which could have been altered by self-conscious intervention if her observations has been used.

This, then, is a rather brief account of one aspect of our activities in Linwood.

Please, however, do not ask us why a psychoanalyst and an operant conditioner work together. The truth of the matter is that, like Rudyard Kipling's elephant's child, we both suffer from insatiable curiosity—in our case about human behavior, activity, comfort, and discomfort—so that as both our disciplines in their particular ways work and are useful there is a mutual appreciation of what each other can do.

SEXUAL IDENTIFICATION OF FATHER SEPARATED EMOTIONALLY DISTURBED BOYS

Mary Denise Cleary

Establishing sexual identification is a multifaceted developmental process that confronts every child. This phase of development presents many problems to the male or female child who is trying to establish his masculinity or her femininity. Sexual identification in the male child whose father is present in the home presents many internal and external conflicts to be resolved. Sexual identification in the male child whose father is not present involves intensified problems because of this lack of a model to imitate.

Workers in the fields of child development, personality theory, and clinical psychology agree that sexual identification is a fundamental concept. Freud (1949) describes the process and effects of identification upon the child.

> By identifying with his parents, i.e., endeavoring to mold his own ego after the fashion of one that has been taken as a model, the child begins to acquire his parents' personality characteristics, behavior, values, motivations, and attitudes.

If the male child does not have a father to model himself after, sexual identification can and does take place. The direction of this identification process is determined by environmental factors, such as participation in masculine oriented activities or identification with a male figure other than a father, such as a teacher or friend. The masculine role identification for these boys must be accomplished without constant exposure to an adult male model. To solve his identification problem, the father separated boy must restructure the field. Admonishings such as "Don't be a sissy" or "Girls act that way" serve as negative guides in defining the masculine role for this child.

The term natural father in this study refers to the biological father or, in the case of an adopted child, to the legal adoptive father. The sample of emotionally disturbed boys was divided into two groups, father present boys and father separated boys. The term father separated boys refers to boys whose father had been permanently absent from his family. The specific reason underlying the father's absence was not considered.

The category of emotionally disturbed children refers to children suffering from mental disorders. Emotional disturbance cannot be studied as a discrete illness, but must be regarded as a complex, interwoven relationship of an organism with itself and its environment. According to Krugman (1958), "Emotional disturbance can only be inferred from behavior which is overly aggressive, inappropriate, overly withdrawn or any combination of these." In this investigation only severely disturbed youngsters were considered, children who were unable to function in society and were therefore placed in a residential treatment center for emotionally disturbed boys.

The Masculinity-Femininity Scale of the Minnesota Multiphasic Personality Inventory (MMPI) was used as a measure of sexual identification. The subjects used for this research were 30 emotionally disturbed negro and white males. The chronological age range of the sample was 11 to 18 years. The IQ scores ranged from 84 to 140. Individual data was collected from personal files on the chronological age of each child as of June, 1966, the chronological age of the child upon entrance to the institution, the marital status of the parents, the date the natural father left the family (if applicable), the IQ of the child, the income of the family, and the number of siblings in the family. This information appears in Tables 1 and 2.

Table 1

Characteristics of Father Separated Sample

Child	CA 6/66	IQ	Family Income	No. of Sibs	CA at Separation	CA at Institutionalization
1	15-11	88	4,000	1	5	10-11
2	14-7	89	4,000	2	0	12-10
3	18-0	89	6,000	3	4	15-7
4	15-9	101	4,000	3	1	13-8
5	12-5	88	5,000	1	0	11-7
6	12-10	84	4,000	9	0	11-4
7	13-6	100	14,000	2	2	12-6
8	16-6	106	17,000	1	0	15-0
9	15-0	97	3,000	1	1	12-0
10	12-9	89	4,000	0	0	12-1
11	11-0	140	7,000	0	3	9-6
12	15-5	89	4,000	10	6	15-4
13	15-2	86	4,000	3	1	11-11
14	15-0	105	4,000	1	0	14-0
15	15-9	123	8,400	0	0	13-8

Table 2

Characteristics of Father Present Sample

Child	CA 6/66	IQ	Family Income	No. of Sibs.	CA at Institutionalization
16	12-9	120	10,000	2	11-9
17	15-6	113	7,000	3	14-7
18	11-10	132	16,000	3	10-4
19	16-9	109	9,000	4	15-8
20	14-7	96	11,000	1	13-8
21	16-2	91	18,000	4	15-6
22	15-8	101	9,000	0	13-3
23	15-9	90	7,000	4	14-7
24	16-3	93	19,000	4	15-7
25	14-2	85	9,000	1	13-2
26	13-11	114	10,000	0	12-0
27	17-4	100	12,000	4	16-4
28	15-4	97	15,000	6	14-5
29	17-3	90	12,000	1	15-6
30	17-6	100	9,000	2	15-7

After this data was collected, the population was classified into three categories: (a) boys separated from their natural fathers before the age of seven, (b) boys living with both natural parents until entrance into the institution, and (c) boys who for various reasons did not fit into either of the above categories.

The Masculinity-Femininity Scale (Scale 5) of the Minnesota Multiphasic Personality Inventory was administered to each of the subjects. This is a self administering group test which, according to the MMPI Handbook (Hathaway and McKinley, 1951), "measures the tendency toward masculinity or femininity of interest patterns. A high score indicates a deviation of the basic interest pattern in the direction of the opposite sex."

The content of the Masculinity-Femininity Scale is heterogeneous, covering interests in kinds of work, hobbies and pastimes, social activities, religious preferences, and family relationships. There are also items on fears, worries, and personal sensitivities.

The scores obtained from the Masculinity-Femininity Scale of the MMPI were used in an effort to determine if those boys who were permanently separated from their natural fathers during their early childhood exhibited the same degree of male sexual identification as those who were raised in a family situation with their natural fathers present in the home. It was hypothesized that the former group of boys would lack masculine sexual identification.

For the purposes of this study, the subjects' raw scores on the Masculinity-Femininity Scale of the MMPI were converted into standardized T scores. A T score above 50 was interpreted as denoting lack of masculine sexual identification.

From Table 3, it can be seen that the T scores range from 39 to 73. Eleven of the subjects from the father separated sample scored above 50, indicating a lack of masculine sexual identification. As the data in Table 4 indicate, only five of the subjects from the father present sample scored above 50, while 10 subjects scored below 50, indicating positive male sexual identification.

Table 3

Raw Scores and Corresponding T Scores
Father Separated Sample
Masculinity-Femininity Scale
Minnesota Multiphasic Personality Inventory

Child	Raw Scores	T Scores
1	16	41
2	21	51
3	27	63
4	24	57
5	29	67
6	23	55
7	18	45
8	31	71
9	23	55
10	32	73
11	29	67
12	16	41
13	15	39
14	21	51
15	28	65

Table 4

Raw Scores and Corresponding T Scores
Father Present Sample
Masculinity-Femininity Scale
Minnesota Multiphasic Personality Inventory

Child	Raw Scores	T Scores
16	16	41
17	23	55
18	16	41
19	13	35
20	19	47
21	27	63
22	19	47
23	25	59
24	15	39
25	9	29
26	20	49
27	16	41
28	28	65
29	25	59
30	18	45

The chi square test of significance was computed to determine whether the null hypothesis could be rejected at the .05 level of significance. As shown on Table 5, a two cell chi square was set up. The results of this computation yielded a chi square of 4.822, which exceeds the tabular value at the .05 level for one degree of freedom. Therefore, the research hypothesis that father separated emotionally disturbed boys lack masculine sexual identification as measured by T scores above 50 on the MMPI is accepted at the .05 level of significance.

Table 5

Differences in T Scores between
Father Separated and Father Present Boys

	Father Separated	Father Present	Totals
T score above 50	11	5	16
T score below 50	4	10	14
Totals	15	15	30

The t test of significance was computed to determine whether the difference in chronological age between the two samples is a significant variable. The results of the t test supported the hypothesis that this difference is not a significant variable.

Serendipital Findings

The data were examined to see whether a relationship exists between the chronological age of the father separated samples at entrance into a residential treatment center and the age at entrance of the father present samples. (See Table 6) The chi square test of significance was computed to determine whether a relationship does exist. The results of this computation yielded a chi square of 5.0, which is significant at the .05 level for one degree of freedom. Therefore, the hypothesis that a significant number of father separated emotionally disturbed boys enter a residential treatment center at an earlier age compared to a group of father present emotionally disturbed boys can be accepted.

Table 6

Differences in Chronological Age at Entrance to Residential Center between Father Separated and Father Present Boys

	Father Separated	Father Present	Totals
9-12 years	9	3	12
13-16 years	6	12	18
Totals	15	15	30

The chi square test of significance was also used to examine the hypothesis that a significant number of emotionally disturbed boys whose natural fathers were absent since birth will score higher on the Masculinity-Femininity Scale of the MMPI than those boys separated from their natural fathers at various ages since their birth. (See Table 7) This hypothesis can also be accepted at the .05 level of significance for one degree of freedom.

Table 7

Differences in CA at Separation from Father and Scores on Masculinity-Femininity Scale of the MMPI

	Since Birth	One year to Seven years	Totals
T score above 50	7	4	11
T score below 50	0	4	4
Totals	7	8	15

Conclusions

Although the results of this research support the hypothesis that father separated emotionally disturbed boys lack masculine sexual identification, these findings must be restricted to the particular population studied and to the measures used in this research. The demonstration of significant statistical association between father separation and lack of masculine sexual identification in emotionally disturbed boys does not constitute proof of a direct causal relationship between the two; rather, it provides a basis for an assumption which should be further researched on normal as well as other exceptional populations.

This study was directly concerned with the father's physical relationship with his son. The investigation did not examine indirect influences of fathers on their sons by such means as the nature of their relationships with their wives, their functioning as breadwinners, and their psychological presence or absence. In further research, the psychological presence or absence of the father should be controlled.

The findings of this research do not prove but do provide a basis for believing that father separation may be an important factor to the establishment of masculine sexual identification in the male child. Further research into the many problems associated with father separation is needed.

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THE TEACHER VIEWS THE USE OF OPERANT CONDITIONING METHODS

Glenna Sipple
Donna Hartman
Jean Musall
Joyce Smith

I have been an elementary teacher for 14 years. For the last five years I have assisted in building a perceptual development program in the Portage Public Schools and have worked closely with perceptually handicapped children. The rewards accruing to me from this work have been many. I believe that I have had some small part in helping exceptional children become responsible members of society through academic and social growth. Children are our future, and since I plan to be around to enjoy the fruits of the "golden years," I want the children who will someday have charge of our society to have the tools and know how to insure such an idyllic future.

In September, 1966, I was placed in an experimental program which introduced the use of operant conditioning techniques with emotionally disturbed youngsters. It was the task of this program to define and investigate behavioral patterns, and to employ operant conditioning techniques as a means of changing abnormal behavior. Five children—two girls and three boys—were the initial subjects. These youngsters were selected because their socially unacceptable behavior and lack of academic achievement threatened to exclude them permanently from public school classrooms.

To accommodate the needs of the program, a regular classroom was provided with special facilities. An adjacent conference room was converted into an observation area by installation of a one-way viewing glass, concealed microphones, amplification equipment, and a door into the hallway so that observers could come and go undetected. Two time-out or isolation rooms were produced by blocking off the ends of two supply rooms which abutted the classrooms. These closets were also fitted with one-way viewing glasses so that overwrought children who required restraint could be separated from the others, but still kept under constant observation in order to prevent any attempt to inflict self injury.

Permanent staff members consist of a director (Dr. Robert Hawkins), a teacher, and a teacher's aide. Itinerant staff members include a student teacher and data recorders or observers from the Psychology Department of Western Michigan University Graduate School. The number of recorders on hand has ranged from three to nine. Excluding frequent visitors to the project, there are, on the average, four adults in the room.

The first two months of the project were spent as a period of orientation during which the permanent staff learned to tolerate the asocial behavior of the children, and the recorders gathered the data which became the baseline for the research.

In November, operant techniques—rewards in the form of candy, marks, and stars— were introduced. Initially, candy was used to reinforce good behavior. The candy was later supplemented by a more sophisticated system of marks. Each child was given a small card to wear and was given a mark on his card for good behavior. When he was able to garner twenty marks in a day, he was permitted to exchange his card for a small grab bag before going home in the afternoon. Stars were awarded for promptness and cooperation at the conclusion of recess and break periods. If a child was able to put his toys away and return to his seat, ready for the next class period, within two minutes from the end of the recess, he was rewarded with a star. An accumulation of four stars enabled him to purchase a small glass of juice in the afternoon. Five stars earned him the right to rent a small transistor radio, equipped with earplugs, for a fifteen minute period in which classes were not being taught. The children responded well to these techniques when they were given consistently and at the right time.

The marking system now in use, a variation of the original, is proving to be the most effective system to date. A store stocked with toys, school supplies, jewelry, and toilet articles was recently introduced, and the youngsters are now permitted to make purchases with cards containing twenty marks. Each card has an approximate monetary equivalent of ten cents. Several of the children now request to be allowed to work during recesses in order to earn extra marks. All purchases at the store are made late in the afternoon, just prior to dismissal time. The minutes before the store opens for business are filled with intense decision making and impatient excitement. Trying to determine what to buy becomes the high point of the day for each child. They leave the building with their treasures clutched tightly in hand, large smiles wreathing their faces.

The marking system appears to be assisting the children to progress academically. When the project began, all of the subjects were having difficulty with arithmetic. They approached it as an onerous task, did not work steadily, and frequently failed to complete their work. Arithmetic was the only subject taught before the milk break in the morning, and to spur them to greater effort, they were informed that they would be given chocolate milk if they could accumulate five points before the break. A timing procedure was established, and points were awarded for problems done correctly within two minutes. Gradually, the number of points per problem was decreased, and it became necessary for the students to complete more problems successfully in order to attain the desired number of points. In addition, extra recesses and break periods are earned when a child completes his assigned work.

Marks have also been used to encourage neatness and good housekeeping. Four marks are given to a child when he has his books in a neat pile, his crayons in the proper container, and his pencils and other small items gathered together neatly. An additional point is given when he does the job quickly. The efficiency of operation and appearance of the room have improved considerably since this plan was initiated.

For the most part, standard texts and workbooks have been used throughout the program. These texts have been supplemented with teacher-introduced materials designed to meet the level of understanding and individual need of each child. Since these students will eventually return to regular classrooms, we strive to adhere as closely as possible to the curriculum guides established for each grade level. One child, Brian, has been very successful in the work he has undertaken in the S. R. A. math book used in the regular classroom into which he has been integrated. He worked with this series regularly before returning to the second grade arithmetic class. Judy, a child whose needs are many and who learns only through constant repetition, is an exception. Her lessons must be carefully structured, and the textual material available is not adequate.

In an attempt to provide a feeling of security for the children involved in the program, and in order to furnish the proper atmosphere for scientific investigation, a daily schedule was needed. During the orientation period, we experimented with several schedules before finding one that was workable. The one now in use is followed as rigidly as human failings and unforeseen events make possible (see Figure 1).

Figure 1

Daily Schedule Used in Social Adjustment Room

8:30	Individualized arithmetic
9:15	Planned games (e.g., cootie)
9:40	Experimental bingo game
10:15	Library or 15 minute break
10:30	Phonics and reading
11:30	Introduction to spelling
11:45	Get ready for lunch
11:55	Get trays and return to room to eat
12:25	Brush teeth and go outside to play
1:00	Story read to them and then all discuss
1:20	Juice
1:25	Spelling
1:45	Movies, science, sharing, new rangers, or special projects
2:00	Desk inspection and purchase at store
2:15	Go home

This has been a learning year for everyone involved in the project. As a staff member who has struggled and strained through the program from its inception, I would offer the following suggestions:

1. Video tapes should be taken throughout the day to help observers define previously unclassifiable behavior (e.g., Brenda's pouting, Eddie's sly remarks). If research is to be done, the tools for defining behavior must be developed into effective instruments.

2. Teacher behavior and performance should be studied as a part of the program in an attempt to determine how she affects the progress of the emotionally disturbed child.

3. The director should closely supervise and evaluate the performance of the data recorders. Because of their naivete concerning teaching techniques, these graduate students have made suggestions and requested changes for the sake of data improvement which are impractical for both the teacher and the children.

4. Since many of the problems these children have to cope with originate in the home environment, parent guidance should become an integral part of the program. Close cooperation between parents and project staff members could result in reward techniques being incorporated into the home situation.

The race is never over until the final results are posted. Our results are far from final. We have made mistakes, but we have also had some success. Perhaps others, in similar programs, will profit from our beginning. Someday we may be able to say, "We have won."

HEARING IMPAIRMENT

THE EFFECTS OF SOCIAL REINFORCEMENT ON DEAF CHILDREN'S PERFORMANCE IN AUTOINSTRUCTIONAL PROGRAMING

Donavon McClard

Social reinforcement is a complex array of physical and verbal stimuli emitted by an individual and directed toward the modification of the behavior of another person. Smiles, frowns, gestures, and spoken words are examples of these stimuli. Symbolic representations of social agents may assume functional properties if the representation is a conditioned stimulus for the real object (Morris, 1946).

Most of the research on the effect of social reinforcement has demonstrated the effectiveness of adults and peers as reinforcing agents in laboratory type instrumental tasks (Stevenson, Keen, and Knights, 1963; Patterson, Littman, and Hinsey, 1964; Patterson and Anderson, 1964). Only preliminary attempts have been made to show the effect of symbolic visual social stimuli on the performance of children (Horowitz, 1962; Lindsley, 1963; Stevenson and Odom, 1964). No studies have been reported using visually oriented deaf children in a school-type task.

The present study was designed to extend research in the use of the visual modality for learning. The teaching materials and the reinforcing stimuli were therefore limited to applications of visual materials only.

Pictures of the child's mother, a strange female, and a colored light were used as a correct response contingent reinforcement in the acquisition of a sight vocabulary taught by programmed instruction.

The automated instructional device required the children to attend to printed words and pictures and make a motor response as a contingency for the presentation of the visual reinforcement.

In order to determine the relative effectiveness of different symbolic visual stimuli on deaf children's acquisition of a sight vocabulary, the following substantive hypotheses were tested: (a) social reinforcement from adult agents would be more effective than a simple light reinforcement, and (b) the child's mother would be more effective than a strange adult in promoting acquisition and retention of vocabulary words.

Method

Subjects. Twelve first grade Caucasian boys attending Minneapolis, Minnesota, classes for hearing handicapped served as subjects in the study. Mothers of the subjects served as social agents. Subjects were between the ages of 6 and 7 years, sustained a predicted loss for speech in the better ear ranging from 58 to 95 decibels, and had learning aptitude quotient scores of 78 to 147. No subjects were included who had handicapping conditions other than the hearing loss.

Teaching Device. The Honeywell University of Minnesota Instructional Device (HUMID), a fully automated machine for presenting a linear nonoral instructional program, was used to teach an experimental 24-word sight vocabulary. The learning task required subjects to form a verbal association between a pictured object and a printed word. Training then proceeded to multiple discriminations between the objects and vocabulary words. The 24 vocabulary words to be taught were randomly assigned to six programs of 50 frames each. Words for the learning task were selected on an a priori basis from Rinsland's 1945 list.

Program frames were slides, which were prepared by photographing colored drawings of objects and gray stereometric words for the objects placed on a matte black background. Sequential development of word recognition within programs proceeded from matching-to-sample to discriminating between three response alternatives. Program difficulty, as measured by independent program density (Green, 1962), was maintained at a constant factor of 0.14 (scale limits 0 and 1.0).

The Reinforcement. Color transparencies of the adult reinforcers were projected onto a mock television screen. Each subject's mother was photographed in a portrait format. Agents were instructed to exhibit facial expressions they might display when demonstrating approval for their child's behavior. Three treatment conditions were used for reinforcement of correct responses to the vocabulary learning tasks. Ten slides of the subject's own mother served as the Parent Reinforcement Condition (A). The Strange Adult Reinforcement Condition (B) was achieved by randomly assigning one of the A series to each subject. Varicolored acetate slides, which projected a uniform color illumination of the television screen, were used as the Light Reinforcement Condition (C).

Procedure. The experimental design was a replicated double change over Latin Square (Federer, 1955). Estimation of carryover effects of a specific treatment one and two periods removed from the initial treatment period can be made when this design is used. Also, differences among subjects and periods do not affect determination of treatment differences. Each subject received the three treatment (reinforcement) conditions, each treatment on a different day (period).

Each subject was brought individually to a small office in the school for testing and training. He was first administered a pretest to determine his concurrent recognition of the vocabulary words and trained in use of the apparatus. Then, on three consecutive periods, subjects were individually presented two new programs; one of the three reinforcement conditions was used each period in a pattern required by the experimental design.

A new picture of the same reinforcing stimulus, the experimental treatment, was administered following the first correct response in each program and after each subsequent fifth correct response (FR=5) for a total of ten reinforcements during each trial of a program. On the fifth day, and after one week, a post training test was administered.

Two different vocabulary programs were administered to each subject on any given day with two trials on each program. All subjects were given the six programs in the same order, but the treatment condition order was unique to each subject within groups.

A printed record of each subject's performance was recorded on a Victor Non-accumulative Recorder coupled to HUMID.

Results

Data from two measures of performance were analyzed to test the substantive hypothesis that pictures of the subject's mother would have more incentive value than pictures of a strange adult female, which, in turn, would have more incentive value than a colored light stimulus. An analysis of variance of the direct effects of the treatments, ignoring residual carryover effects from previous periods, and an analysis of the direct effects of treatment, eliminating residual effects, were made. These analyses were used for measures of (a) mean gain in number of words correctly discriminated after training and (b) mean number of responses made to programs within specific treatment periods.

A summary of the results is presented in Table 1. Superiority of symbolic reinforcement to neutral light stimulus in producing better learning and performance was not generally supported, but subject showed consistently better performance trends under the parent reinforcement condition than under either of the other two reinforcement conditions. Poorest performance occurred under the strange adult reinforcement condition.

Table 1

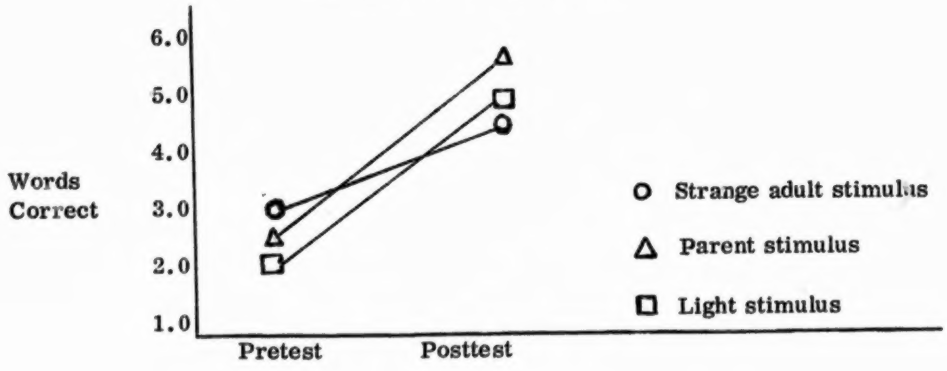
Summary of the Tests of Principal Hypotheses

Null Hypothesis	Results Percent Level of Confidence	Dependent Variable
1. For mean $(\overline{X})$ number of responses made to programs within treatment periods:		Total responses made to programs within periods
(A) $\overline{X}_A + \overline{X}_B - \overline{X}_C = 0$	Accepted	
(B) $\overline{X}_A - \overline{X}_B = 0$	Accepted	
2. For mean $(\overline{X})$ gain in number of words correctly discriminated:		Difference between pre- and posttest scores for words within each reinforcement condition
(A) $\overline{X}_A + \overline{X}_B - \overline{X}_C = 0$	Accepted	
(B) $\overline{X}_A - \overline{X}_B = 0$	Rejected	

The mean number of words correctly discriminated for each treatment condition on the pretest and posttest is shown in Figure 1.

Figure 1

Mean Number of Words Correct Within Treatments on the Pretest and Posttest



On the average, subjects made an overall gain of 7.5 words from training. The greatest gain was made under the light stimulus condition (C) (2.92 words), followed in order by the parent picture condition (A) (2.83 words) and the strange adult condition (B) (1.75

words). The gain in words identified was 38 percent less under the B treatment than the A treatment. The analysis of variance for gain differences between treatments is shown in Table 2. The main effects due to differences between groups and subjects within groups were significant ($p < .01$). Differences between the social reinforcement stimuli and the light stimulus were not significant. The word gain under the A condition was superior to the word gain under the B condition ($p < .05$).

Table 2

Analysis of Variance of Gain in Words
Identified within Periods

Source	df	MS		F
Between Groups	3	8.41		9.76**
Subjects within Groups	8	6.47		7.52**
Periods within Groups	8	1.47		1.71
Between Treatments				
$\overline{X}_A + \overline{X}_B - \overline{X}_C$	1	3.12		3.62
$\overline{X}_A - \overline{X}_B$	1	7.05		8.19*
Treatments by Groups	6	1.27	86	2.28
Error	8	.56		
Total	35			

*Significant at .05 level
**Significant at .01 level

The results of the analysis of gain in word identification after training under the three reinforcement conditions suggest that the reinforcing stimulus of the mother's picture was associated with greater retention of words by the subjects than the strange adult's picture. The combined effect of the two social stimuli, however, was no better in improving word recall than the neutral light stimulus reinforcement.

Table 3 indicates results for the total number of responses to programs. Visual inspection of the sample means indicates that fewer responses were required during parent reinforcement conditioning than during the other two treatment conditions. The greatest number of responses were emitted under the strange adult stimulus. Differences in response rate were slight, however. Only 2.5 percent more responses were made under the B condition than the A condition. An analysis of variance of total responses within periods indicated that the between treatment main effect was non-significant. Although the predicted differences between means of responses within treatments were not significant, it should be noted that the observed differences were in the predicted direction of effectiveness. The predicted direction was $A > B > C$; the observed direction was $A > C > B$.

Table 3

Means for the Unadjusted Effects of Reinforcement and for the Direct Effect on Total Number of Responses to Programs

	Reinforcement Condition		
	Parent Picture (A)	Strange Female (B)	Light Stimulus (C)
Mean number of Responses	237.75	243.67	241.25
Increase in number of responses over condition A	-	5.92	3.50
Percentage of increases in number of responses over A		2.5	1.5

The experimental design permitted an analysis of the data with the carryover effect of one treatment on subsequent periods removed. Essentially the problem of carryover effects is that when different reinforcements are administered serially to a subject, the influence of one reinforcer is mixed with the influence of another following later in the series. If a particular reinforcer's direct effect or residual effect is identified as significant, it can be adjusted, and the mean values of the dependent variable can be analyzed. The comparison of the unadjusted and adjusted direct effects of treatments on the criterion measures of performance revealed that only slight modification of the parameters was obtained by removing carryover effects, and the general effect remained the same. Therefore, the alternate partitioning of the sum of squares was not required.

Discussion

In general, the hypothesized incentive value was not found for the symbolic visual social reinforcement, although a persisting statistically nonsignificant trend was seen for better performance under the parent agent condition than the strange adult and light conditions. The strange adult picture was clearly less effective than the parent picture on the gain measure.

Inspection of the differences between mean values of measures under the different reinforcement conditions shows that performance under the strange adult stimulus was consistently poorer than under the other two. In fact, mean values for the parent condition and the light condition were quite close. Such an observation must remain statistically untested since predictions concerning this comparison were not made in the statistical hypotheses.

The importance of this similarity in performance-eliciting properties lies in an alternate explanation for the effect of the stimuli upon learning: Effects accruing to certain stimuli do not facilitate but instead interfere with learning—the converse of the hypothesized effect. Evidence from other studies in the effects of extraneous stimuli on learning are equivocal (White, 1963; Ellis, Hawkins, Pryer, and Jones, 1963). Observing responses may be incompatible with attending to the learning task. If the strange adult picture were the most novel stimulus, subjects would not become satiated on this stimuli as quickly as the more familiar maternal picture or uncomplicated light stimulus. Consequently, the differential effect in learning would be attributed to the relative degree of distraction in the three stimuli and not to the social reinforcement potency of the stimuli.

The results of the present study are consonant with the findings of others (Horowitz, 1962; Atten, 1963) who also reported that among five year old, nonhandicapped children, pictures of social agents were no more effective than relatively neutral stimuli in conditioning an instrumental response. It appears that symbolic social reinforcement loses its value to young school age children, both among those with a high visual orientation and those with a mixed reliance on auditory and visual sensory input.

A reasonable explanation for the relative impotency of the social stimuli at this age is that these children are able to discriminate between stimuli that are representational and those that are real. Thus, the incentive value of the social object passes from a primitive association of the object with primary reinforcing events to a level in which value is based upon the novel and visual exploratory opportunities in the object. Support for this hypothesis is found in the report by Lindsley (1963) on conditioning of an instrumental response in an infant by use of pictures of female adults. Inquiry into chronological age trends in conditionability of instrumental responses using symbolic social stimuli is indicated for future research.

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ABSTRACT

HOME MANAGEMENT IN A COMPREHENSIVE PRESCHOOL PROGRAM

Donald R. Calvert
Susanna Baltzer

The preschool program, which is part of the San Francisco Hearing and Speech Center, serves a large geographic area. The staff includes people with backgrounds in audiology as well as education. The approach to teaching involves multisensory stimulation with high emphasis on developing the sense of hearing. Work with parents, both fathers and mothers, is based on maximum participation through active work at the center and at home.

Home management through home visits by all teachers is an integral part of the preschool program. All children enrolled in the program are visited; the youngest children and those who live farther from the center are visited the most frequently. The program maintains a stock of lending amplifiers and hearing aids, a lending toy bank, and a lending library of books and pamphlets. The guidance and counseling program for parents includes fathers as well as mothers.

There are several advantages for home visits. Because the home is the natural environment for both mother and child, learning is more likely to take place there than in a clinical environment or a demonstration home. In the home one encounters the specific language environment and environmental sounds which the child will encounter day after day. The trip to the home avoids the tiring trip by the child to the center, permits the staff to see the father and other members of the family, and develops a unity with the program at the center. Home visits also provide an opportunity to test the results of training, guidance, and counseling.

The primary problem associated with a home visit program is funding. We believe the rewards from home visits are sufficient to merit the additional expenditure necessary for this aspect of the preschool program. We also believe that home visits will become an essential part of most preschool programs in this county.

Note:--The paper abstracted above appeared in the December 1967 issue of Exceptional Children.

THE IMPROVEMENT OF LISTENING COMPREHENSION IN PARTIALLY SIGHTED STUDENTS

Robert W. Bischoff

Present educational programs for partially sighted students have been developed primarily on experience and observation. Few programs, methods, and procedures have been validated through research (Karnes and Wollersheim, 1963).

Partially sighted students have a marked disadvantage in reading. The median silent reading rate for sighted high school seniors is reported by Harris (1956) to be 251 words per minute. Although little information is available on reading rates for partially sighted using large type, evidence accrued at the American Printing House for the Blind indicates that students using large type read little faster than do students employing braille (Morris, 1966). Meyers and Ethington (1956) reported standard braille reading rates from 90 words per minute for high school students down to 50 words per minute for fifth and sixth grade. Nolan (1959) found the median reading rate for partially sighted students to be about 100 words per minute, less than half the median speed of seeing children. The reading rate discrepancy is one that grows in significance as a partially sighted student advances through the grades and encounters progressively greater reading requirements (Morris, 1966).

Oral presentation of material to partially sighted students is frequently appropriate, and its use is increasing. A typical speaking rate for a trained professional reader, such as those who read "Talking Books," is 175 words per minute (Foulke, Amster, Nolan, and Bixler, 1962). Use of recorded material could provide a partial solution, since the recorded rate is almost twice the high school partially sighted reading rate and about three and a half times the elementary school partially sighted student reading rate (Morris, 1966). Thus it could be expected that the partially sighted listener has an advantage over the partially sighted reader, but he still lags behind the sighted reader (Foulke, Amster, Nolan, and Bixler, 1962).

A recent study conducted by the Department of Educational Research, American Printing House for the Blind (Morris, 1966), found listening to be the more efficient way to learn academic material. Itinerant and regular classroom teachers of the partially sighted have been aware of the need to emphasize listening to make up for the visual loss (Pelone, 1957). This important learning area has been discussed, but little has been done systematically by the teachers involved to improve partially sighted students' ability to learn by listening.

The expectation of this study was that a sequential program of listening comprehension instruction could effect results that would carry over into regular school activities.

The Problem

The objective of this study was to test the following hypotheses:

1. Comparison of mean pretest and posttest scores of partially sighted students who received special instruction in listening comprehension and partially sighted students who did not receive special instruction in listening comprehension will result in no significant differences.

2. There will be no significant differences between the mean listening comprehension scores of partially sighted students who received special instruction in listening comprehension and those who did not.

3. There will be no significant differential effect between means resulting from two types of listening comprehension instruction.

Subjects

The 63 students in this study conformed to the interpretation of partially sighted defined by the National Society for the Prevention of Blindness. They were enrolled in grades four through nine, from two sources: those served by the itinerant teachers of the Tacoma Public Schools, Tacoma, Washington, and those students enrolled in special classes for the partially sighted at the Oregon School for the Blind, Salem, Oregon.

The students were divided into two experimental groups and one control group of 21 subjects each by means of the stratified random sampling technique. Special attention was given by the experimenter. Each group consisted of 14 students from the Tacoma Public Schools and 7 from the Oregon School for the Blind.

An analysis of variance test established that differences between groups were nonsignificant.

Procedure

Listening comprehension lessons have a content of informative, factual, or enjoyable material for students. These materials are of paragraph or short story length. However, existing listening materials proved to be too short for the intended listening comprehension instructional period of this study, or were constructed in such a way that the content material would be inappropriate for the grade levels included in the study. Thus, the writer found it necessary to edit and combine existing materials in order to develop appropriate listening lessons. Material was drawn from My Weekly Reader - Listening Comprehension Paragraphs: Common Sounds (American Education Publications, 1966), as recommended by Russell (1959) and the SRA - Listening Skill Builders (Parker, 1961).

Two listening lesson sequences were developed from this material and were then named as to their chief source: My Weekly Reader Listening Comprehension Paragraphs (MWR) and SRA Listening Lessons (SRA). Both sequences contained an introductory lesson followed by 19 lessons of 15 minutes duration each. Each lesson contained three parts: presentation time, comprehension check (with multiple choice answers), and answer check. The material emphasized main thoughts or ideas, specific word meanings, and general comprehension.

Two lessons in listening comprehension were presented each week for ten weeks. The lessons were limited in time and number weekly in order to fit the schedule of the itinerant teachers, since many of the students met with the itinerant teacher only twice a week.

The MWR sequence was organized into four parts, each part averaging about 160 words in length. Parts I, II, and III were followed by four multiple choice questions. Part IV differed in that four questions were asked and the students had to write a word or phrase that answered the question. Each group of questions emphasized: (a) comprehension (comprehending a fact in context), (b) vocabulary (selecting the right definition for a word in context), (c) interpretation (interpreting facts given and drawing inferences from them), and (d) generalization (determining the main idea by selecting a title).

The SRA sequence was organized into two parts, each part averaging about 300 words in length, followed by a comprehension check consisting of from six to ten multiple choice questions. Development of auditory attention span and listening comprehension were emphasized by the use of T, Q, L, and R. T is for tune-in; Q is for questions; L is for listen; and R is for review.

Past criticism of listening lessons has been that the answer sheets, forms, or booklets are a mixed measure of both reading and listening. Wilson (1960) suggested that many of the printed items on the answer sheets can be responded to by pupils who have not heard the oral materials. To overcome this criticism, a simple answer sheet in large type was constructed which listed only the question number followed by capital letters A, B, C, and D, representing the multiple choice answers.

Following the presentation of all parts of either the MWR or the SRA there was an answer check. It consisted of: (a) repetition of the original questions, (b) the correct letter answer, (c) the correct phrase to complete the statement or a correct answer to the question. This procedure was used in an effort to reinforce the correct responses the students had made earlier.

In both listening lesson sequences, each question or statement read was followed by a 15 second pause to allow time for the student to make the appropriate answer choice.

Each listening lesson was tape recorded to provide standardized conditions through maintenance of the same rate of presentation for each group (175 w. p. m.). Decibel level was also controlled for each group. Classroom conditions enhancing the effectiveness of listening were discussed with the itinerant teachers involved in the study. Forms 3A and 3B of the Sequential Tests of Educational Progress (STEP) Listening Tests were used as the pre- and posttest criterion measures of listening skill used in this study. The publisher stated that these two forms are of equal difficulty. To overcome the criticism that this test is a mixed measure of both reading and listening (Kelly, 1965, and Wilson, 1960), a special enlarged answer sheet was developed, on which virtually all reading was eliminated. Each question was numbered and the multiple choices were represented by rectangles labeled with the appropriate letters. The student only had to darken the rectangle representing his answer choice.

The tests were tape recorded by the experimenter in order to control the rate of presentation for all subjects (120 w.p.m.). General directions were modified slightly to adapt to the changes arising from the modified answer sheet. The MWR were presented to Experimental Group I and the SRA were presented to Experimental Group II. Group III, the control group, received no listening comprehension instruction. No analysis of the weekly lessons was attempted.

Results

Hypothesis 1. The t test results presented in Table 1 show a significant mean increase in listening comprehension performance in Experimental Groups I and II; the former is significant at the .01 level of confidence, the latter at the .05 level. These data suggest conclusively that both experimental groups have significant higher posttest means than pretest means and therefore, Hypothesis 1 is rejected.

Table 1

Comparison of Pre- and Posttest Mean Scores

Group	Number	Pre Mean	SD	Post Mean	SD	df	t
I (Experimental) (MWR)	21	49.5	12.9	63.4	14.2	40	3.23**
II (Experimental) (SRA)	21	52.0	12.1	62.8	13.4	40	2.67*
III (Control)	21	53.0	13.2	46.9	15.1	40	1.4 NS

* Significant at the .05 level of confidence.
** Significant at the .01 level of confidence.

It should be noted that there is no significant difference between the pre- and posttest means of the control group. In fact, the control group actually shows a loss of 6.1 points. The statistical results seem to indicate clearly that instruction in listening comprehension significantly increases a student's ability in this learning area.

In Group I, the mean gain was 13.9 points. The raw data reveal that eight students gained over 20 points and one member of this group registered a gain of 43 points. Group II did not show as great a gain, but it did have a mean gain of 10.8 points. The raw data for this group show that nine gained over 15 points and two gained 34 and 35 points. Not only did the control group show a loss in overall mean score, but also displayed very slight individual gains. Of the eight students in Group III who made any positive gain, one increased by 8 points, one by 4, and the remaining six by 2 points or less.

It is interesting and puzzling to note that two subjects in Experimental Group I showed losses of 22 and 8 points, and one subject in Experimental Group II lost 7 points. The writer is at a loss to explain these decreases, in light of the obvious success of both sequences on listening lessons.

Hypothesis 2. Table 2 shows the statistical comparison of the differences in means for Groups I and III, and Groups II and III. The t test was used to test for differences. The difference between the means of Group I and Group III were significant beyond the .01 level of confidence, as was the difference between group means for Group II and Group III. The significant differences after special instruction in listening comprehension lead to a rejection of the second hypothesis. It seems clear that the subjects who received special instruction in listening comprehension showed significant and important ability gains over those subjects receiving no special instruction. Table 2 also presents evidence that both types of instruction in listening comprehension produced increased listening comprehension.

Table 2

Comparison of Posttest Experimental and Control Group Mean Scores

Group	Mean	SD	df	t
I (MWR)	63.4	14.1		
III (Control)	46.9	15.1	40	3.56**
II (SRA)	62.8	13.4		
III (Control)	46.9	15.1	40	3.53**

** Significant at .01 level of confidence.

Hypothesis 3. Table 3 presents t results of a comparison of the difference in group means between Groups I and II. The difference between Group I (MWR) and Group II (SRA) was not significant. Thus, Hypothesis 3 is held to be tenable. The data suggest that there were no significant differences between either type of listening comprehension instructional material used.

Table 3

Comparison of Posttest Mean Scores between Experimental Groups

Group	Mean	SD	df	t
I (MWR)	63.4	14.2		
II (SRA)	62.8	13.4	40	.137 NS

At the conclusion of the study, a brief questionnaire was distributed to the teachers of the two experimental groups. Six of the seven teachers said they would use listening instruction lessons if they were provided, and four teachers said they would develop their own listening lessons if they were not supplied. All teachers involved felt that listening lessons have value for partially sighted students. Six teachers felt that listening lessons were most valuable to the students of average ability. Five teachers felt the listening comprehension instructional material had helped the students in other areas of their school work. Several teachers commented that a sequential program in listening comprehension was something that the educational program for the partially sighted student had needed for a long time to give it added vitality.

Conclusions

The following implications and recommendations have been drawn from the findings of this study:

1. Teachers should be made aware of the fact that listening comprehension is a skill that can be taught effectively to partially sighted students.

2. There appears to be a need for a sequential listening comprehension instructional program in the listening learning area. The short term (ten weeks) intensive sequential instructional listening comprehension procedure used in

the present study significantly increased the listening efficiency of partially sighted students.

3. It appears that listening comprehension can be improved by a variety of methods. The present study showed no mean differences between the two experimental groups.

4. The need is emphasized for educational institutions to give attention to the improvement of listening comprehension, so that future teachers of partially sighted students will be informed in the skill of teaching listening comprehension.

5. It would probably be wise to establish programs in regional academic centers to inform inservice teachers of the background and importance of sequential instruction in listening comprehension for partially sighted students.

6. Materials (other than textbooks) should be constructed in order to aid the teacher of partially sighted students in implementing listening comprehension instruction with other areas of academic instruction.

7. Educational opportunities for partially sighted students may be enhanced by presentation of a sequential instructional listening comprehension program to improve these students' skill in this learning area. Increased skill in listening comprehension would supplement large print and auditory media presently in use.

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THE ADJUSTMENT OF PARTIALLY SEEING CHILDREN AND ITS RELATIONSHIP TO VISUAL ACUITY

Summary of Findings

Ralph L. Peabody

The relationship of adjustment to specific characteristics of partially seeing children was investigated. The 753 fifth and sixth grade subjects were enrolled in programs for the partially seeing in 14 states. Adjustment included an overall adjustment score as well as 15 specific behavior characteristics derived from the Teachers' Behavior Rating Scale. The presence or absence of significant relationships was determined between adjustment and items from a Personal Data Questionnaire which included the following: visual acuity, sex, grade level, age, age-grade relationship, residence, home-school cooperation, type of school program, years in special education, etiologies of visual disabilities, and age at onset of visual disability.

The review of professional literature and previous research studies indicated a lack of information relative to the adjustment of partially seeing children. Many authorities in the field held strong opinions which were frequently not borne out by research studies, and in some instances the two appeared to be in direct conflict.

The study was limited by several factors: the representativeness of the sample population could not be established, the meaning of "adjustment" was confined to those items measured by the one instrument, the accuracy of the data was a function of the competence of the teachers making the required observations and the adequacy of the school records, and the findings of the study are directly applicable only to the sample population used.

Hypotheses

Two hypotheses were tested and a number of questions were investigated in the study. The hypotheses were:

1. The degree of visual acuity of preadolescent partially seeing children was inversely related to their level of adjustment.
2. No significant relationships existed between the specific behavior characteristics as shown on the adjustment scale and the visual acuity of partially seeing children.

The questions asked whether relationships existed between adjustment and certain characteristics of the sample population, listed previously.

Results

The first hypothesis was not supported by the results, as tests of the hypothesis showed no significant relationships; adjustment as measured in this study was not inversely related to the reported visual acuity measurements of the sample population. The second hypothesis was supported, as the tests showed too few significant relationships at the five percent level of confidence. The reported visual acuity measurements for this sample population were not significantly related to any of the 15 specific behavior characteristics measured by the Teachers' Behavior Rating Scale.

The ten proposed questions were investigated. No significant relationships were found to exist between adjustment and the following characteristics: sex, years in special education, etiologies, and age at onset of the visual disabilities. The other characteristics were found to have some relationship to adjustment of the subjects in the sample population. These included grade in school, age, overagedness, residence of the children, home-school cooperation, and type of special education program.

The transcript of the complete study is located in the Wayne State University Library, Detroit, Michigan, and a microfilm of the study is available from University Microfilms, Inc., Ann Arbor, Michigan.

ORGANIZATIONAL PLANS FOR PARTIALLY SEEING CHILDREN IN GRADES 5 AND 6

Summary of Findings

Thomas M. Stephens

Information concerning partially seeing children was obtained from teachers in 15 states. In all, 888 children in grades five and six were studied. The number of students in each organizational plan was as follows:

	Students	
Plan	Number	Percent
Itinerant	171	19
Resource room	300	34
Special class	417	47
Total	888	100

Partially seeing children in itinerant, resource room, and special class plans were compared on the basis of language arts achievement, IQ scores, near and far point visual acuity, use of low vision aids, and occurence of medical diagnosis related to structural defects of visions.

Results

Metropolitan Achievement Test Results (Language Arts). A significant difference was found when the mean scores on the Metropolitan Achievement Test (MAT) were compared among the three organizational plans. The itinerant plan group had the highest mean score. The special class group mean score was slightly higher than the mean score for the resource room group.

Intelligence Test Results. Mean IQ scores were found to be significantly different among the subjects in the three organizational plans. The mean IQ scores for the three groups were:

Plan	Mean IQ
Itinerant	99
Resource room	95
Special class	94
Total	95

Near Point Visual Acuity. Near point visual acuity was reported on 460 (52 percent of the subjects. The subjects for whom such information was available were evenly distributed among the three organizational plans. Six categories were used to classify the subjects on the basis of near point visual acuity. Tests of significance were then applied to determine if differences were significant. All differences were rejected as being not significant.

Far Point Visual Acuity. Data for 820 subjects (92 percent) were reported relative to far point vision. The subjects were then classified into six categories on the basis of far point visual acuity. A statistically significant difference was found among the number of subjects classified as having "mild defects."

More children having mild defects were found in special classes than would be expected by chance, while fewer children having mild defects were found in resource rooms than would be expected by chance. The number of children having mild defects in itinerant plans was close to expectancy.

Low Vision Aids. Among the 888 children, 253 (28 percent) reportedly used low vision aids in conjunction with their classroom activities. More students in itinerant plans used such aids than would be expected by chance. A similar situation was found among the special class subjects, although the difference was not as great.

Medical Diagnosis. Defects of vision were reported for 701 (79 percent) of the subjects. A test of significance revealed that the differences, in number of subjects with such diagnosis among the three organizational plans, were not significant.

LEARNING DISABILITIES

EVALUATION: A DIAGNOSTIC REMEDIAL APPROACH

Sister Joanne Marie Kliebhan

The child with a learning problem is not a new discovery of the Jet Age. Impulsive, distractible, and confused Joey baffled the teacher in the one room school house just as surely as he perplexes the modern teaching team in today's ungraded primary. Through the years, however, several major changes have occurred in the means, methods, and materials employed to deal with Joey's problem.

Current Trends

In the past, the family doctor and the classroom teacher were the only professional persons concerned with conditions like Joey's. Today, parents seek help from psychologists, neurologists, psychiatrists, opthomologists, and audiologists, to mention but a few. Each specialist examines Joey in his own unique way, hoping to discover the cause of his inability to learn. Precise and detailed reports about Joey's condition accumulate in his folder, but the besetting problem remains the same—Joey isn't able to learn!

Another noteworthy change over the years is the increase in number of labels used to describe Joey. The one time broad, undefined categories of dull, slow, educationally retarded have gradually given place to the more specific terms we hear today: autistic, aphasic, dyslexic, brain damaged, etc., but Joey's problem hasn't changed—he still isn't able to learn!

The third and most significant trend in recent years has been the emerging role of the educator in diagnosing and remediating learning problems. Emphasis on labels and etiology is giving way to behavior modification in an educational setting. The apparent ineffectiveness of asking what Joey is and why he is thus has led to the more pertinent question from an educational point of view: How does Joey learn and how can he best be taught? This approach implies the need for evaluating his specific strengths and weaknesses, areas of ability as well as disability in language function. Based on the assessment of the behavioral symptoms, special remedial procedures are prescribed to ameliorate the disability and are programed for the particular child.

Diagnostic Remedial Steps

The diagnostic remedial process begins with gathering sufficient relevant data to permit as logical and precise a diagnosis as possible. The initial step in the process is to establish the fact that a disability exists by comparing the child's capacity for performance with his actual performance. If a significant discrepancy (varying with the age of the child) exists between potential (IQ) and level of functioning (achievement), a disability is said to exist.

The next step is to analyze the symptoms of the disability as carefully as possible. This calls for a detailed description of behavioral symptoms in the particular situation in which the disability is manifested. In the case of a reading problem, a diagnostic reading test would be administered in order to analyze errors of work attack, spelling, reversals, etc. For the child referred with a speech and/or hearing defect, this would entail as full and exact a description of the disorder as possible.

The final step in diagnosis is to determine the nature and extent of correlated disabilities. Evaluation of behavior in all aspects of language function—input, integration, and output—assessed independently and in combination, yields crucial information as a clue to which areas need more refined assessment. When one or more disabilities have been detected, further tests of a more specific nature would be recommended to establish the level at which the child is presently functioning within a particular disability area. Secondary only to discovering which areas need remediation is ascertaining where to begin the remedial training and with what tasks—i.e., determining where the basic processes of language are intact, where the gap in normal functioning begins to appear, and how to bridge that gap.

As mentioned earlier, one of the major changes we have witnessed in this field during very recent years has been in the means of identifying and treating specific disabilities correlated with, or basic to, learning problems. There has been a noteworthy increase in the number of standardized and informal tests available with which to explore factors underlying learning disabilities. These include tests of auditory and visual memory, auditory closure, laterality, sensorimotor abilities, perception, etc.

Many of the specific area tests suggest their own remediation. If a child fails certain items on the test (and if these behaviors are considered essential to normal functioning), then remedial training should encompass these very areas of deficit and be programed to develop these particular skills. The more precise the diagnosis, the more specific can be the remediation.

Bateman (1964) has presented a schematic outline of the diagnostic remedial process in the form of two triangles joined at the apex. The upper, inverted triangle represents the steps in the diagnostic phase, narrowing progressively from the somewhat vague determination that a problem exists, through a behavioral analysis of symptoms and testing of correlated disability areas, to the statement of the diagnostic hypothesis. The remedial phase is the inverse of the diagnostic, beginning with a narrowed focus on the primary disability area, broadening successively to ever widening application as individual progress is made.

Use of the ITPA

One of the most influential factors contributing to the current status of the diagnostic remedial approach to learning disabilities was the publication in 1961 of the Illinois Test of Psycholinguistic Abilities (ITPA) (Kirk and McCarthy, 1961). While still in the experimental edition, the ITPA has received wide acclaim as a useful screening and evaluation instrument in the discovery of psycholinguistic deficits and as an aid in remedial planning. The test has been in such extensive use in schools, clinics, and research projects throughout this country and abroad that it would be redundant to describe it in detail here. (The test, its theoretical background, and rationale are thoroughly discussed by Kirk and McCarthy, 1961, and Kirk and Bateman, 1962.)

Briefly, however, the ITPA is an individual diagnostic test of language abilities, designed in its present form to be administered to children from two and a half to nine years of age. Nine subtests are included which assess specific psycholinguistic areas and yield separate language ages. A psychodiagnostic profile of these nine areas depicts the specific disabilities for which remediation is needed as well as those intact abilities which reflect areas of possible strengths in the child's present mode of functioning.

Three processes of language are tested: decoding or reception (the ability to understand auditory and visual symbols), association (intermediate processes of integrating, manipulating, and storing linguistic symbols internally), and encoding (ability to express ideas vocally or motorically).

Two levels of language ability are assessed: the representational or meaningful level, and the automatic sequential or perceptual, rote, nonmeaningful use of symbols.

The ITPA tests two channels of communication: auditory input vocal output and visual input motor output. A psycholinguistic ability (or disability) can thus be described in terms of a specific process at a particular level via a given channel. With this degree of specificity the diagnostician is able to tell whether the child's problem is with receptive, associative, or expressive language; whether his disability is mainly one of conception or perception; and whether he is a visual or an auditory learner. Remediation is planned accordingly. The ITPA profiles of two disabled readers will serve as illustration.

Figure 1

Profile of Lee: CA 8-5, MA 7-2, IQ 83.

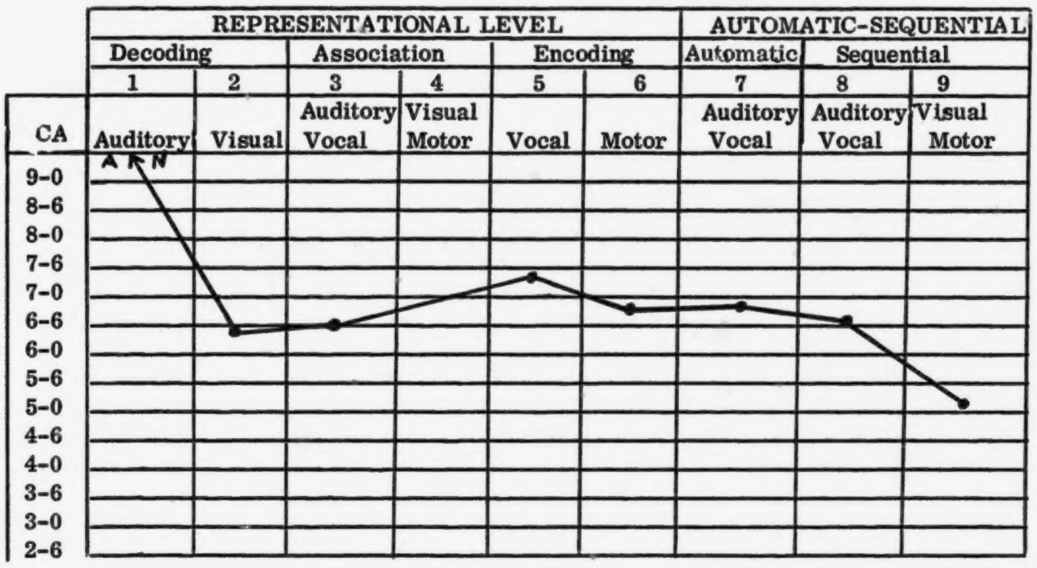

Figure 1 is a profile of Lee, an eight and a half year old boy referred to the Cardinal Stritch College Reading Clinic last July. He had been in kindergarten for three semesters and had made little or no progress in first and second grades, but was to be placed in a third grade classroom in September. Other than wearing glasses to correct a mild refractive disorder, Lee was described as being in good physical condition. Speech therapy had been recommended in August, 1965, to correct several defective phonemes and moderate nasality.

The Stanford-Binet administered at the clinic in July, 1966, resulted in a CA of 7-10, MA of 6-8, and an IQ of 83, consistent with two previous psychometric examinations. On the silent and oral reading tests from the Durrell Analysis, Lee was unable to go beyond the first few sentences. Word recognition was at low first grade level. No apparent method of word attack was evident but occasionally Lee relied on his knowledge of initial and final consonants. On the Wide Range Reading test, he scored below the first grade level (0.7). Lee was consistently left handed, left footed, and left eyed on laterality tests.

Lee's scores on the ITPA resulted in a mean language age of 6-8 years. He exceeded the norms on auditory decoding and functioned at or above his MA on both encoding tests. The auditory vocal channel was consistently superior to the visual motor at both the meaningful and nonmeaningful levels. The two memory tests, subtests 8 and 9, show the usual deficit pattern of poor readers. (Lee's mean language age for these two tests was 5-10, commensurate with his reading age.)

Lee gives evidence of being an auditory learner. With the predominantly visual reading method used in his school, Lee was a failure right from the start. An auditory approach is being utilized in the clinic at the present time in his developmental reading program, with visual motor techniques included in a remedial program to overcome his correlated disabilities. Hee has been making slow, steady progress during his seven months of individualized instruction, and is now reading at a high first grade level.

Figure 2

Profile of Willy: CA 7-8, MA 8-8, IQ 112.

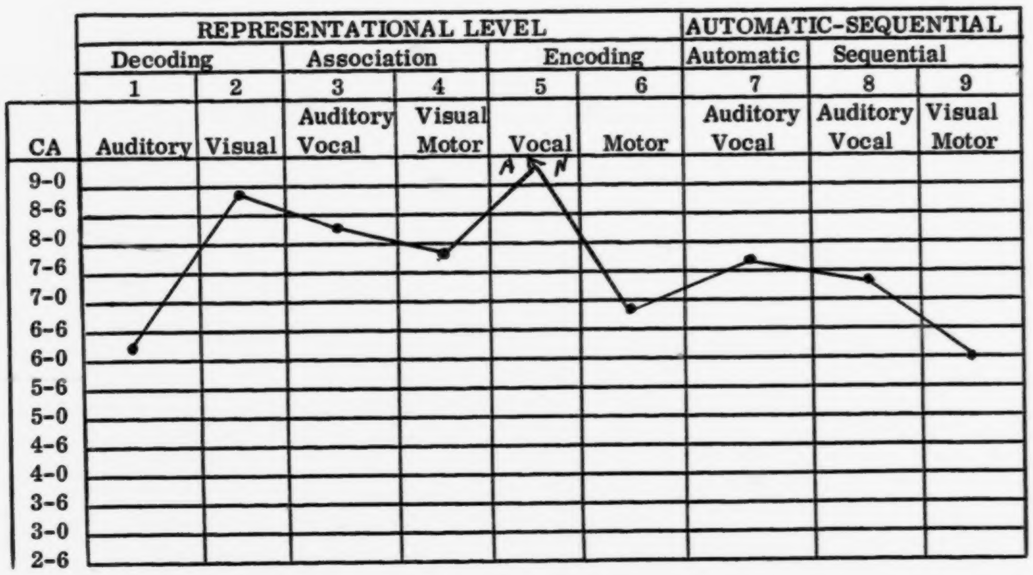

Figure 2 represents Willy, aged 7-8, referred to the clinic because of difficulty with beginning reading. He had had one year of kindergarten, two years in first grade, and was struggling with a primer at the time of referral. The Stanford-Binet showed him to be in the high average range of intelligence, with an IQ of 112. Monroe Reading Aptitude Tests indicated that Willy has good reading potential, ranking at the 80th percentile. On the California Lower Primary Reading Test and on Gray's Oral he scored 1.3 and 1.4, respectively.

Willy recognized only about 8% of the 220 Dolch Basic Sight Words. He knew the sounds of most of the single consonants but had difficulty with blends. He thought the vowels had names only.

Telebinocular visual screening and audiometric testing revealed normal functioning.

Willy's ITPA profile presents the pattern of typical reading disability cases. The automatic sequential level is considerably below the representational level; a peak is seen in visual decoding; visual and auditory memory are both poor. Willy reads pictures, not words. He comprehends what is read or said to him only when he listens.

Despite high normal intelligence and good potential for reading, Willy is presently functioning at a language age one year and three months below his MA. He is not using the auditory channel to gain information in everyday activities or in the reading process. (A remark by his father bears this out: "Willy doesn't pay attention to what is said to him.") Visual motor scores are low throughout, but it seems that the motor component is mainly responsible for this deficit. Willy cannot be said to be a visual learner, despite his peak in visual decoding. His weak visual memory makes it impossible for him to retain even the sight vocabulary of a primer.

An auditory approach to reading would be recommended (e.g., Gillingham, 1960, or Hegge, Kirk, and Kirk, 1940), cutting off distracting visual stimuli as much as possible. Auditory discrimination tasks would be programed for a severe disability of this kind. These would progress from gross sound discrimination (dog barking versus ringing of a bell) to sound recognition (labeling a sound) to finer sound discrimination of words, consonants, vowels, blends, etc. Tape recorded lessons in which the child would have to follow directions given on the tape would be helpful.

Programed remedial activities in visual motor sequencing, such as the Frostig program for developing visual perception (1964), would be recommended.

Figure 3

Profile of David: CA 7-6, MA 8-3, IQ 109.

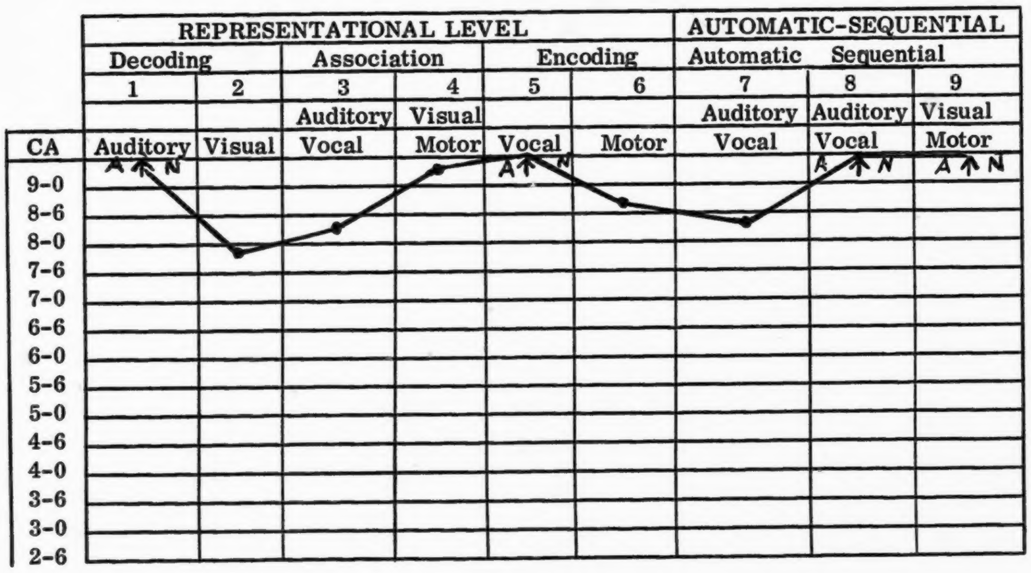

Figure 3 is presented as a direct contrast to Willy's. This is a profile of David, aged seven and one half years, with an IQ of 109. David and Willy are in the same second grade classroom; Willy is two months older and three IQ points higher than David; Willy is at primer level, David is reading two years beyond his grade level. While there is only a little over a year's difference in their mean language age, Willy is over four years below David in auditory and visual memory, two basic functions in the reading process.

As a clinician administers more and more ITPA's, characteristic profiles peculiar to particular groups of children can be seen to emerge. These additional clues aid in individual diagnosis and may serve as a check on the internal consistency of a given profile. Disabled readers, as we have seen—as well as the mentally retarded—

tend to show deficits in the mechanical, rote aspects of language as assessed by the automatic sequential tests. Gifted children and good readers generally excel in the auditory vocal channel; retardates show preference for the visual motor. Youngsters from disadvantaged homes show deficiency on the auditory vocal automatic subtest which appraises incidental learning of grammar and syntax. Disturbances in the visual motor channel are common with the Strauss syndrome or the brain injured child.

Unresolved Questions

One question unresolved as yet (and which perhaps will remain so since no two cases can be treated exactly alike) is whether to teach to a child's strengths or to his weaknesses. Once we know, for instance, that a child is a visual learner, where do we go from there? Do we capitalize on his assets or do we try to remediate his areas of disability? A partial answer is that choice of approach depends somewhat upon the age of the youngster. The younger the child, the more the possibility exists of developing areas of weakness. With an older child, it might be more feasible to build up whatever comparative strengths are present. The primary focus in either case should be on teaching the child to do what he cannot presently do, and that whatever techniques assist in eliciting and strengthening these behaviors should be used.

Another question of equal concern is what to teach a particular child once method has been determined. As mentioned earlier, many of the tests in specific areas of disability suggest their own program of training. Test items represent samples of behavior considered essential for normal functioning. If a youngster fails certain items, these are the behaviors to be taught. Teaching the test, so to say, is basic to the Frostig (1964) visual perception materials and Kephart's (1960) perceptual motor program. Several investigators have developed remedial activities specific to the nine psycholinguistic abilities assessed by the ITPA (Blessing, 1964; Hermann, 1962; Painter, 1964; Smith, 1962; Wiseman, 1965). While designed for remediation, the tasks and activities involved could be utilized also in a developmental language program to prevent disabilities.

Evaluation does not cease when the diagnosis is reached and remediation begun. Evaluation must be an ongoing part of the entire remedial process. The competent diagnostic teacher will be alert to read the behavioral symptoms and will be sufficiently flexible to alter her course of action as time and conditions dictate. Means, methods, and materials will be made to serve her one objective, that of pupil progress.

Summary

We have seen that Joey's problem is not new nor is it unique. He represents approximately 10% of all school age children who are allegedly learning problems. He has been given various and sundry labels—some merely descriptive, others more diagnostic; he has been examined by a growing number of professional specialists, but his second grade teacher reports that Joey still isn't able to read.

Steps in the diagnostic remedial process were outlined, with special emphasis on correlated disabilities. The contribution of the ITPA as an educationally useful instrument for pinpointing specific disabilities and planning remedial programs were discussed. Profiles of poor and good readers were presented and compared, together with suggestions for remediation.

Unresolved questions were raised: (a) Do we teach to the child's strengths or to his weaknesses? and (b) What do we teach once we have determined how to teach a particular child? Reference was made to remedial programs in which the ITPA has been used as an aid in curriculum planning.

In keeping with the philosophy of meeting individual differences, the idea of matching method to child has caught on as a logical and effective way of dealing with learning disabilities. Unless and until another method shows evidence of greater promise, educators will continue to rely on the diagnostic remedial approach in their determined efforts to show that Joey *can* learn.

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THE TEACHER OF LEARNING DISABILITIES AS CALIFORNIA VIEWS HIM

Donald Mahler

In order to help understand how California views the training of teachers to work in the area of learning disabilities, it will be helpful to review briefly some of the historical developments which have led to some present conclusions.

A concern of society and educators for many years has been the capable pupil who fails to learn, may become a behavior problem, and often leaves or is excluded from public school. In the past many attempts have been made to assist such pupils through remedial programs, guidance efforts, and certain aspects of "special education." However, the results at best, despite the best efforts of all concerned, were often marginal. As a growing body of research and scattered pilot programs began to emerge, it became evident that many of these pupils could be identified as having specific learning problems which might be substantially alleviated through specialized techniques and methods.

The conception of California's present provisions for pupils actually took place in 1957, when pilot and exploratory programs for emotionally handicapped and for neurologically handicapped children were begun (with limited supplementary state funds) at the operational public school level. This gestation period was a little longer than normal, for it was not until 1963 that the California Legislature finally delivered a completed infant, which was named the Educationally Handicapped Program.

This name was not an accident, for the California Legislature very clearly stated it did not wish to establish another typical categorical program and so provide another box into which to place pupils. Rather, the program is designed to focus attention on the learning problems of non-mentally retarded pupils who, because of emotional and/or neurological problems, fail to learn adequately in normal programs. A definitive label or etiological analysis of participating pupils is not required, but a comprehensive descriptive appraisal is essential. To the maximum extent possible, the same curriculum content normally found in regular school programs is provided for educationally handicapped minors. This requires a highly individualized approach involving specialized techniques, requirements, equipment, and environment to cope effectively with the complex learning characteristics and problems of the enrollees. The nature of the remedial instruction often goes far beyond what this word has previously meant to educators (and to parents as well). An extremely wide range of daily preparations must be made for each pupil in the program, be the program one of home instruction, of special classes, of summer camping trips, of articulated instruction with mental health clinics, or of integrated small group and tutorial instruction within the regular program.

California's educationally handicapped program has been conceived, was delivered, and is rapidly approaching childhood after a brief and interesting infancy. And at the rate the program is growing, with an estimated 17,000 pupils participating in September, adolescence may soon be here. So perhaps it is new appropriate to pause and consider where this decade has led, particularly in the area of teacher preparation.

First, the typical concept of teacher training and teacher utilization has been found to be far too restrictive. A program of special education must combine several elements to really constitute a program—elements of supervision and of administrative support and understanding at all levels. A little reflection will confirm that when a principal or a superintendent reports that he "had a program last year but the teacher left," a total program really did not exist, only one element. Our first suggestion then is that the concept of teacher education for programs for educationally handicapped pupils must be broad and include all elements of program development and operation.

Turning to the restrictive aspect of the typical concept of teacher education, there is still the prevalent idea that teachers, once trained, are going to work forever with one type of learning problem in one type of administrative structure (usually a special class). Yet experience in the educationally handicapped program is showing some of the same characteristics of other special education programs, namely that special teachers spend from four to seven years in a given field before moving on to another area or entering supervisory or administrative work. And because of the very rapid expansion of the educationally handicapped program, the teacher movement to supervisory positions has been extremely noticeable. Furthermore, the tremendous range of administrative and instructional resources available to teachers working with learning disabilities means they are expected to perform effectively on many levels in myriad ways.

In addition, in nearly all parts of the United States, training programs appear to be simply "more of the same" under a new rubric. Most teachers are being trained in a heavily clinical and psychologically based program for very precisely defined tasks and roles with experience indicates exists more in the abstract than in the concrete. Additionally, most teacher preparation programs have yet to recognize and adopt some of the newer trends in elementary and secondary subject matter instructional trends which recognize that the schools cannot anticipate all the future experiences of pupils nor the rapid developments in various disciplines, concepts, and problem solving techniques.

The conclusion is that teacher training programs, preservice and inservice, should make sincere attempts to develop genuinely new approaches to staff development which recognize the realities of personnel utilization and mobility in education at large. Expected benefits include more effective and efficient use of training manpower, greater long term productivity of teachers working directly with pupils, and sorely needed attention devoted to training teachers as effective resources to other staff members and to the emerging role of managing assistant teachers and teacher aides.

A third finding from experiences to date is that a great deal of flexibility must be built into training requirements. This is true both at the collegiate and the state level. One of the basic concepts of special education is to tailor provisions to meet individual needs, but too often our training programs make inadequate provisions for meeting the individual needs of teachers, paying scant attention to the length and breadth of experience brought to a training program by an individual trainee. And probably one of the reasons California does not yet have formalized training requirements in the educationally handicapped program is that we have not yet identified a way to build this flexibility into a rather restrictive and prescriptive structure.

The fourth point is related to the first three, particularly the second and third. Given the need to teach basic principles, concepts, and strategies, and given the need for flexibility, it is spurious to talk about teacher training as being done at a certain collegiate level in a certain amount of time. California's approach is that a teacher training program must be longitudinal, with entry possible at many points on the continuum. This, of course, requires a training institution to give attention to an articulated preservice and inservice program, and further requires substantial continuing liaison with local school agencies. It also presupposes sincere cooperation and assistance from the state and local levels to the training institution. (One of the most interesting and significant things we are finding is the very substantial number of regular class teachers who attend the workshops, conferences, and teach-ins for teachers of the educationally handicapped, and report they are attending because they have heard or seen the success of the program and want to learn more about how to work with their own pupils in the regular program.)

California has not yet identified the exact format of its training suggestions, especially how to handle a preservice program at the secondary level, but we did prepare some suggestions last September (1966). These suggestions have been widely distributed and discussed among college personnel, local educational agencies, and the State Department of Education. To date these suggestions have had favorable support and may well be the basis for a future credential and are as follows:

I. Professional Preparation for Persons with a Basic Credential

In the following section it is assumed that the student in meeting the requirements for a basic teaching credential and for a baccalaureate degree would have taken appropriate course work that would prepare him to profit from the advanced instruction that is listed below.

A. Extensive study in the broad area of the psychology, sociology, and education of exceptional children including directed experiences with the wide range of exceptional children.

B. Advanced study in developmental psychology with emphasis on relationships among developmental characteristics, sequential patterning, and learning. This area should stress the perceptual and cognitive development of the child in interaction with his physiological and environmental factors. Included in this area should be guided experience with children ages 2-8 years.

C. Advanced study in the psychology of learning, motivation, group dynamics, and behavior modification, and their applications to classroom teaching.

D. Advanced study in childhood psychopathology stressing emotional and neurological components.

E. Intensive study in detection, assessment, and remediation of the learning disabilities, techniques, and materials for adapting instructional programs to the needs of these children.

F. Guided participation, student teaching, and internship with educationally handicapped children. This area should include experience with the counseling and guidance of parents of educationally handicapped children.

II. Suggestions for the Preparation of Persons Preparing to Meet the Requirements of a Basic Teaching Credential

A. Elements of the preparation in I. above should be developed for undergraduate students planning to teach educationally handicapped children. In this regard it is hoped that colleges and universities, to meet manpower needs of the schools, will stimulate and encourage students in education to consider teaching exceptional children as a career.

B. It is recommended that prospective special education personnel have early guided experience with the exceptional children they plan to teach. This is felt to be of critical importance for teachers of educationally handicapped children since these children place heavy demands on the physical and emotional strength of instructors and further would serve as a self-selection process. If after such an exposure the student demonstrates ability to deal with educationally handicapped children and if the student still wishes to pursue this type of teaching as a career, it would appear that his chances for being successful would be greater. This kind of early exposure also would develop a background of knowledge and awareness that would then make the later academic courses more meaningful when applied against this experimental background.

III. Postgraduate Education

> Preservice training programs are conceived of as a part of a long range continuing educational plan, requiring continuous attention at the postgraduate an inservice level. It is recommended that colleges and universities participate in this total plan by developing appropriate seminars, institutes, and special courses on a variety of topics such as current trends, specialized instruction, management, teacher attitudes, etc.

Any discussion of teacher training in California must keep in mind the basic credential structure. This structure, as enacted by the California Legislature and implemented by the California State Board of Education, is extremely complex and seems to have become more so in the past few years. To attempt to explain it in detail is beyond the scope of the present concern, but it is appropriate to mention that a teaching credential requires a minimum of five years of college and that special education courses may be substituted for a minor under certain conditions and so lead to a special education credential. There may be ultimately adopted a special credential to teach in the area of the educationally handicapped, but it is hoped that a significant amount of what we have learned and are learning can be incorporated into the regular teacher training program and so have a favorable impact upon all pupils.

ABSTRACT

STUDIES ON THE HYPERACTIVE CHILD IX: AN EMPIRICAL ANALYSIS OF THE SYNDROME OF MINIMAL BRAIN DYSFUNCTION

John S. Werry
Gabrielle Weiss
Klaus Minde
Virginia Douglas

Minimal brain dysfunction is a source of great interest and concern to mental health professionals, educators, pediatricians, and parents. Hyperactivity is generally recognized as one of the cardinal symptoms of minimal brain dysfunction. Since the authors during the past five years have been studying at a child psychiatric clinic the chronically hyperactive child of normal intelligence, they decided to do an empirical, statistical analysis of the clinical features of the 103 subjects studied to date. Seventy neurological, cognitive, medical historical, and behavioral variables were selected from a larger number of such measures, using the criteria that (a) they had previously been shown to differentiate hyperactive from normal children or (b) the frequency of abnormality (e.g., neurological signs) was in excess of 10% in the sample of hyperactive children. These 70 measures were factor analyzed and the obtained factors rotated by the varimax method. Only factor loadings of .40 or greater were considered significant. Ten factors representing 77% of the variance were extracted, as detailed below:

Factor	I	Motor incoordination (14% of the variance)
	II	Impaired visual motor function (10%)
	III	Agnosia-apraxia (9%)
	IV	Disturbed behavior-poor family environment (8%)
	V	Immaturity (7%)
	VI	Electroencephlographic instability (7%)
	VII	Subcortical neurological impairment (6%)
	VIII	An unnamed factor related to maternal age (6%)
	IX	Impaired intellectual performance (5%)
	X	Abnormal perinatal history (5%)

Significantly, certain variables such as hyperactivity, birth order, enuresis, Lincoln-Oseretzky Motor Development percentile, continuous performance tests scores, adoptive status, and socioeconomic class did not appear in any factor.

Though these results accrue only from hyperactive children, they are in general comparable to two other factor analytic studies on children with other features of minimal brain dysfunction. While the findings do support present ideas about the classes of abnormalities subsumed under the diagnosis of minimal brain dysfunction, they throw considerable doubt on the idea that there is any meaningful relationship between them, as might be expected if the syndrome were due to abnormal cerebral status.

MENTAL RETARDATION

PROPOSED INDIANA PROGRAM FOR SECONDARY SCHOOL STUDENTS WITH SPECIAL EDUCATIONAL NEEDS

Leslie Brinegar

During the 1965-1966 school year, Indiana public schools, with a total population of 1,150,000 children, operated only four secondary school work-study programs for educable mentally retarded youngsters. For these purposes, a secondary work-study program was considered as a systematically defined and operated program having a specifically designated person in charge, and which included a comprehensive system for realistically placing pupils in community based jobs for which they received credit and within which a coordinated attempt was being made to develop a total inschool academic curriculum which the work-study program was designed to complement.

The State Division of Special Education staff, while obviously not satisfied with the number of programs meeting the above specifications operating in Indiana communities, at the same time was not completely in agreement with the patterns of evolving work-study programs which were being rapidly developed in other sections of the country. Concern was evidenced that:

1. Most programs in operation appeared to be too narrow in application, e.g., heavy emphasis was being placed upon "work-study" to the point where it seemed to be becoming an end in itself, in short, "the program," when perhaps it ought to be just one of many techniques useful in helping students with learning deficiencies become responsible, employable citizens.

   The term, "work-oriented high school program," has been utilized in Indiana as a term to imply a total, comprehensive approach toward meeting the needs of the handicapped which includes "work-study" as only one of several possible techniques of educating and training the mentally retarded.

2. State financial reimbursement patterns which were being established tended to lean markedly toward the Vocational Rehabilitation Division for funding, with the result that the division appeared in some states to be taking over the school program although persons in the Vocational Rehabilitation Division tended not to be educators primarily.

3. While special education (as a discipline) generally has been appreciative of financial support which has been fed into programing for the handicapped, there was concern over whether the type of school programs needed at this stage in their lives by the mentally retarded could properly be termed "rehabilitation." Does not, for instance, the Vocational Education Division have an equal, if not greater, responsibility to the mentally retarded than Vocational Rehabilitation?

4. The patterns of emerging secondary school programs was tending to become very inflexible and stifling to creative innovation in the structuring of possible new types of work oriented school programs.

5. Under the Special Education-Vocational Rehabilitation structure there appeared to be a tendency to neglect the utilization of persons outside of these fields who also have a stake in the development of appropriate secondary school offerings for handicapped pupils. Prominent among such missing personnel are guidance counselors, vocational education, and regular curric-

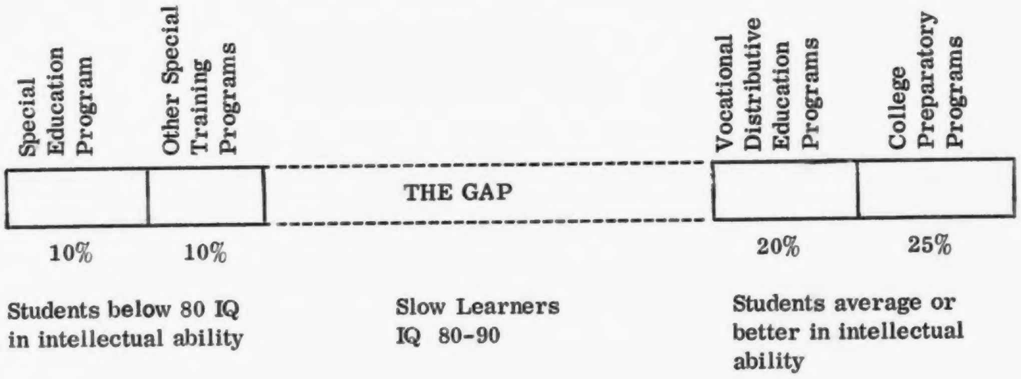
ulum workers in secondary education.

6. Many potential sources of funds had not adequately been explored, which if utilizable, might open up additional avenues of programing and provide several options for local program funding.

7. Restriction of the services of the work oriented program to students who were diagnosed as meeting the criteria of mentally retarded, as used for placement in state approved special education classes, might greatly reduce the saleability of the work oriented program, weaken its total effectiveness, and reduce its value to the total educational enterprise of a school district.

Figure 1

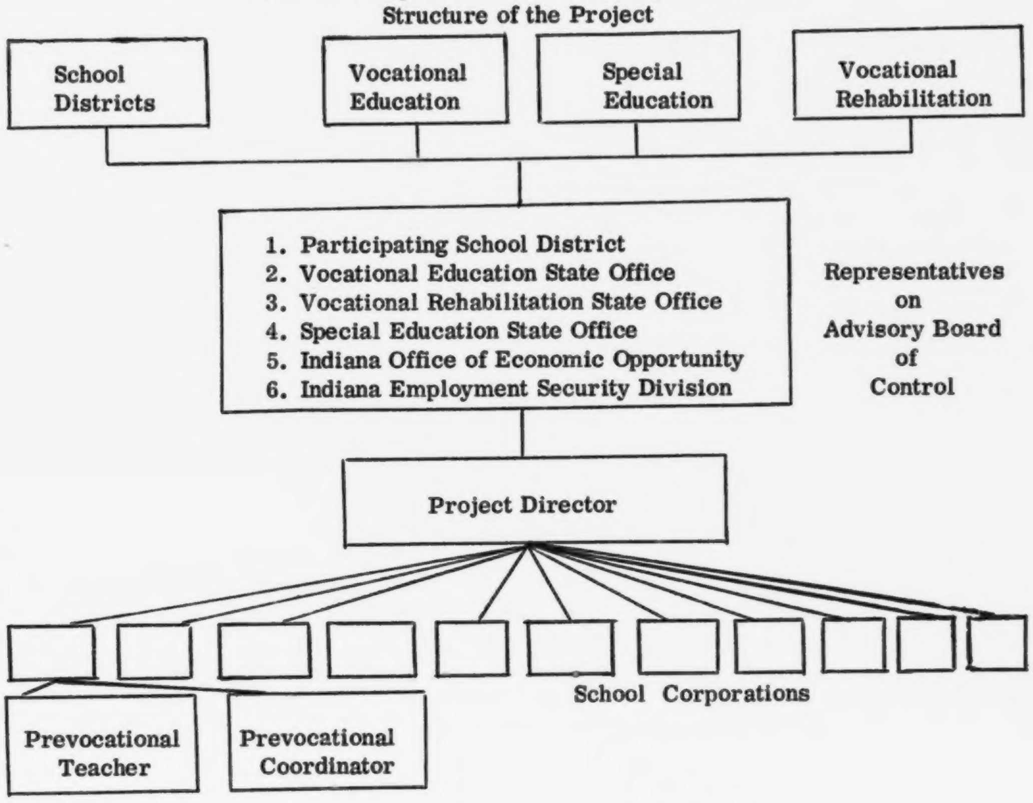
Previous Indiana Educational Program


Special Education Program
Other Special Training Programs
THE GAP
Vocational Distributive Education Programs
College Preparatory Programs
10%
10%
20%
25%
Students below 80 IQ in intellectual ability
Slow Learners IQ 80-90
Students average or better in intellectual ability

The staff of the Indiana Division of Special Education, aware of the history of pioneering demonstration work-study projects such as the 1959 Dallas (Texas) cooperative effort between special education and vocational rehabilitation divisions which precipitated the development of The Texas Plan which has served the country as a model for program development, and the Dayton (Ohio) Work-Study Program from which sprang several similar programs, initiated a series of planning activities between personnel of the Indiana Department of Public Instruction and several Indiana school districts. This series of meetings resulted in the decision to prepare and submit a proposal for a Title III, ESEA Planning Grant to develop models for work oriented secondary school programs for educationally handicapped youth (to include the slow learner), which would be applicable to the unique needs of individual school communities, and which would eventuate in financial patterns for state school support of local programing activities.

Figure 2

Schematic Representation of the Organizational Structure of the Project


School Districts
Vocational Education
Special Education
Vocational Rehabilitation
1. Participating School District
2. Vocational Education State Office
3. Vocational Rehabilitation State Office
4. Special Education State Office
5. Indiana Office of Economic Opportunity
6. Indiana Employment Security Division
Representatives on Advisory Board of Control
Project Director
School Corporations
Prevocational Teacher
Prevocational Coordinator

This project, approved and funded October 1, 1966, involved the three divisions in the Indiana Department which had direct responsibilities for students who have educational disabilities and ten school districts ranging from 950 to 108,000 students in total school population. An experienced project coordinator was employed and, in order to effect liaison between the three state divisions, was housed in the state office. Local prevocational coordinators were employed by each of the ten school districts. At the same time a special class teacher was employed by each district and designated as a prevocational teacher. Each such teacher and special class was to be affiliated with the project as an experimental class to try out those procedures, methods, and materials which would be devised during the duration of the project.

Project Director Responsibilities

The project director serves the ten school districts in similar ways as the usual state consultant but with considerably more depth and comprehensiveness. The director assumes these responsibilities:

1. Participates as a member of the advisory board.
2. Is consultant to local school programs.
3. Conducts inservice training of participating teachers and prevocational coordinators.
4. Channels information and printed materials to and between school districts.
5. Schedules assignments in curricula development and program materials to

prevocational coordinators and teachers.

6. Receives, duplicates, and disseminates completed materials to participating school districts.
7. Prepares and disseminates frequent briefs and reports of the activities, accomplishments, and problems to participating schools and agencies.

Local Prevocational Coordinator Responsibilities

The prevocational coordinator has the following responsibilities:

1. Provides the overall coordination of the total work oriented program.
2. Provides leadership in the development of a total school and community definition and philosophy of the work oriented program.
3. Assembles a local advisory board of school and community leaders to provide a team approach to planning and implementation.
4. Establishes team teach units in vocational information, pre-job orientation, etc., with the classroom teacher.
5. Carries out a community survey of job placement situations.
6. Conducts vocational orientation field trips.
7. Participates directly with the teacher in planning curricula.
8. Leads in developing community awareness.
9. Coordinates a parent counseling program.
10. Participates in community-wide work-study programs such as those conducted by community action and vocational education groups.

Local Program Development Goals

Local school districts are responsible for the development of the content of the work oriented program which will include a curriculum appropriate to prevocational training and work orientation activities, the selection and utilization of job sampling activities, the determination of community based work-study stations, and the methods and techniques of terminal placement and followup.

Following synthesis of program information and material from the ten community experimental centers, the Indiana Department of Public Instruction, through its divisions of Special Education, Vocational Education, and Vocational Rehabilitation, will develop program guidelines and recommendations for use throughout the state.

Preliminary Outcomes of State Planning

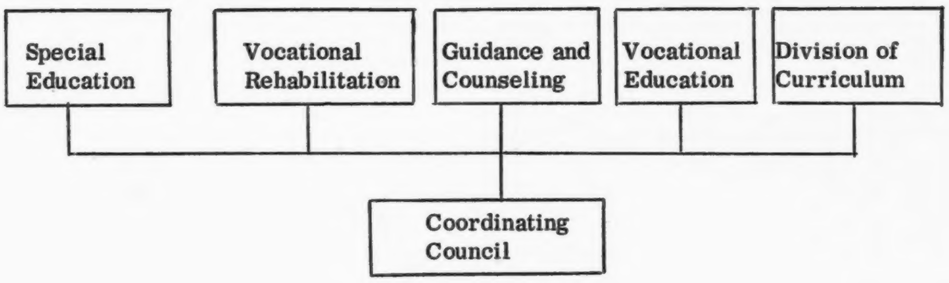
Currently, the divisions of Special Education, Vocational Education, and Vocational Rehabilitation are examining their philosophies to identify and communicate their abilities to work in a unified fashion in developing flexibility to provide services to all students who have educational handicaps. The specific areas in which cooperative endeavors are being explored are:

1. Financing possibilities.
2. Supervising local programs.
3. Making and accepting referrals.
4. Providing consultation services.
5. Planning curriculum.
6. Initiating research activities.
7. Establishing promotion activities.

Consideration is being given by the Indiana Department of Public Instruction to the formation of a State Coordinating Council, consisting of a representative of each of five divisions of the department which have responsibilities and concerns for the provision of optimal educational opportunities for noncollege bound students having less than average intellectual ability. The Coordinating Council will be charged with the responsibility for finalizing, implementing, and coordinating the Indiana Program for Secondary School Students with Special Educational Needs.

Figure 3

The Indiana Program for Secondary School
Students with Special Educational Needs



The functions of this program are the establishment of the following:

(a) Programs, (b) Methods of Cross Financing, (c) Personnel Certification, (d) Inservice Training, (e) Consultative Services, (f) Program Promotion, (g) Curricula Development, (h) Rules and Regulations, (i) Counseling Roles, (j) Program Approvals, (k) Referrals, (l) Research-Demonstration, and (m) Legislation.

To make such an approach operable, it has been suggested that the representatives of the department's divisions on the Coordinating Council should be persons who are employed specifically for that purpose and who might carry titles such as:
(a) Coordinator of Prevocational Programs (assigned to the Division of Special Education), (b) Coordinator of Secondary School Programs (Division of Vocational Rehabilitation), (c) Supervisor of Programs for Special Needs Students (Division of Vocational Education), (d) Coordinator of Special Guidance Services (Division of Guidance and Counseling), and (e) Consultant, Curriculum Development for Special Students (Division on Curriculum).

Summary

Development of secondary school programs for educable mentally retarded students in Indiana schools has been distressingly slow. The patterns of evolving work-study programs throughout the country were considered not totally satisfactory as models since they appeared to be too narrow in scope with a heavy emphasis on work-study, too inflexible following a reliance upon Vocational Rehabilitation as a source of funding, deficient in utilization and involvement of other educational disciplines such as vocational education, and too restrictive in terms of the categories of types of students eligible for these programs, which in turn appeared to reduce the saleability of the work oriented program and to result in failure to make the greatest contribution to the total educational effort. A Title III, ESEA proposal was submitted, approved, and put into operation in October, 1966. The Vocational Education, Special Education, and Vocational Rehabilitation Divisions of the Indiana Department of Public Instruction joined with ten Indiana school districts to conduct a planning project, with accompanying demonstration programs in the ten school communities, for the purpose of developing models for the organization of comprehensive work oriented programs which could be applied to fit the unique needs of individual schools.

The project permitted the employment of a project director who was housed in the state office to effect liasion between the state divisions, and local prevocational coordinators were employed in each of the ten school districts. A prevocational teacher from each school district was assigned to the project, with the ten classes being designated as experimental classes for curricular and material development purposes. Models for programing at the local level are to evolve as a result of the synthesizing of information coming from the ten communities which range from less than 1,000 pupils to over 100,000 pupils in total enrollment.

Preliminary outcomes of planning on the state level emphasized the integration of the efforts of five divisions of the Indiana Department of Public Instruction through use of a State Coordinating Council. The purpose of the council will be to maximize the opportunities of all Indiana secondary school students who are handicapped by less than average intellectual ability and who may need special educational services to become responsible, employable adults. The council will provide the means whereby the financial and consultative resources of the department's programs can be directed toward the development of secondary work oriented activities providing an array of services including several types of work-study programs, which provide several options of funding to enable schools to develop the type of program which fits their unique needs, and which may include all students having needs which can best be met through innovative approaches, work oriented in nature. The resulting total approach will be termed the Indiana Program for Secondary School Students with Special Educational Needs.

ADMINISTRATIVE CHALLENGES IN SPECIAL EDUCATION: THE RELATIONSHIP OF VOCATIONAL OUTLOOK AND SPECIAL EDUCATIONAL PROGRAMS FOR THE ADOLESCENT EDUCABLE MENTALLY HANDICAPPED

Philip R. Jones

This presentation will be divided into two major parts: first, a review of a research study completed last spring in Illinois high schools; and second, the administrative implications and challenges in establishing or modifying high school programs for the educable mentally handicapped. Some of the implications and challenges are based on the findings of this and other studies while other implications reflect the biases of the author.

Purpose of the Study

The purpose of the study (while it often seemed to be "in partial fulfillment of the requirements...") was to investigate appropriateness of vocational outlook of high school educable mentally handicapped (EMH) students enrolled in special classes in the public high schools of Illinois. The various high school programs included in the study were analyzed to determine if any relationship existed between vocational outlook and the program in which the EMH student was enrolled. Other possible relationships between vocational outlook and age, sex, race, intellectual level, reading level, work experience, history, and home background were considered. (Jones, 1966)

The study was of an exploratory nature due to lack of previous research on the topic.

Review of the Literature

Many authors have discussed what constitutes a program for the EMH at the high school level. Kirk and Johnson (1951), Ingram (1953), Goldstein and Seigle (1958), Sniff (1962), Kirk (1962), and Robinson and Robinson (1965) all advocate the following continued instruction in tool subjects with application to everyday practical problems and instruction in the following areas as being essentials in high school EMH programs: (a) home building and home maintenance skills, (b) occupational education with work-study provisions, (c) citizenship, and (d) physical and mental health.

Kirk, in a 1957 presentation, listed the following points for future planning considerations as they relate to increasing automation in business and industry:

> First, we must begin to anticipate the abolition of certain jobs now held by the mentally retarded and search for possible new openings in harmony with their abilities.
>
> Secondly, we must become sensitive to the changes occurring in our social structure and particularly changes in commerce and industry.
>
> Thirdly, we must look into the future in our plans for training and placement since present training means placement in the future. (Kirk, 1957)

Bridging the gap between the school and employment has become a major concern of high school EMH classes. The titles of work-study coordinator, teacher-counselor, and prevocational counselor have evolved in many high schools operating EMH classes to designate the person who devotes full or parttime to vocational counseling and placement of students in work-study programs. An extensive program utilizing a team approach of public school personnel and Vocational Rehabilitation personnel to jointly offer prevocational services has developed in the Champaign (Illinois) Community Schools (Champaign Public Schools, 1961; Burchill, 1962). The state of Texas offers a similar program on a statewide basis (Eskridge and Partridge, 1963). Other communities in Illinois and elsewhere have organized similar programs (Burchill, 1962). These programs do not attempt to offer specific job or trade training, but through classroom instruction, counseling, inschool and community work experiences, and sheltered workshop evaluation periods and experiences, they attempt to instill habits, attitudes, and skills necessary to obtain and hold a job. The general procedure involves assignment of the EMH student to a work situation for a portion of the school day during his high school years. Some programs offer structured, sequential work experiences while others place the student in any available job and still others have no work-study program available. In some cases the special class teacher coordinates the program during after school hours, in others he has released time during the school day, and in others special personnel devote full time to this phase of the program.

Research Studies

Erdman (1957) reviews the literature which pertains to the present study for the period prior to 1957. In summarizing followup studies on employment of the retarded, Erdman (1957) found general agreement that most retardates found employment at the unskilled and semiskilled level. Very few, if any, found jobs at the semiprofessional and professional level. McFall's (1966) findings confirm these earlier findings. She also found only 22 percent of the 50 subjects studied had some type of vocational training after leaving school.

Warren (1965) reports on the 42 graduates of the Kent Occupational Education and Training Center in Michigan. He found the majority of graduates in service and nonservice (unskilled and semiskilled) jobs. Peterson and Smith (1960), in comparing former EMH students with former students of normal intelligence from families of low socioeconomic status, found a difference in the type of work performed. The retarded females were employed primarily in service occupations, while their counterparts in the comparison group found employment chiefly in the clerical field. The retarded males were found primarily in service and unskilled jobs, while the males in the comparison group were employed in clerical, semiskilled, and skilled occupations. Dinger's (1961) study of graduates of the Altoona, Pennsylvania, program also found the majority of the subjects in the unskilled and semiskilled fields. The study also reported that occupational success is not highly related to differences in intelligence but is a reflection of the desirable personal characteristics possessed by the retarded worker.

Erdman (1957) investigated the vocational choices of adolescent mentally retarded boys and found that only one third of the boys made "unrealistic" choices, in that they chose occupations not generally considered as appropriate for the EMH. He also found the home and community exerted a greater influence on vocational choice than did the school. Erdman's study was limited to 106 sixteen, seventeen, and eighteen year old white mentally retarded boys enrolled in special classes in major labor market areas of Wisconsin. Erdman offers the following major findings of his study:

1. The majority (52 per cent) of adolescent mentally retarded boys chose jobs at the unskilled and semiskilled level. Of the others, 34 per cent chose skilled jobs, 14 per cent could not make a choice, and only 1 per cent chose a job at the semiprofessional level.

2. There is evidence to indicate that many of the mentally retarded boys have achieved the objective of self-realization. An analysis of other choices, such as prior choices or most liked choices indicated that the mentally retarded were relatively realistic. Although some would have preferred higher level jobs, they recognized their lack of academic ability for such jobs.

3. The retarded boys making first vocational choices at the unskilled and semiskilled levels tended to be realistic. Most of the 36 retarded boys making first vocational choices at the skilled level tended to be unrealistic. A significant difference was observed between the number of subjects expecting to work at these levels and the estimated number of retarded employed there.

4. The vocational experiences associated with the home and community appear to exert stronger influences on the formulation and crystallization of the vocational choice of the retarded boys than the experiences in a school.

    a. Eighty per cent of the boys reported that they had discussed their vocational choice with someone at home as compared to only 33 per cent who reported they had discussed their choice with someone at school.

    b. In most cases the subjects reported no marked conflict between the expectation of their parents for them and their own first vocational choice.

    c. The first vocational choices of the mentally retarded boys tended to be at the same level as the occupations of the fathers are reported by the boys.

    d. An interest in jobs for the boys occurred most often as a result of actual experience on a job and secondly by having someone tell them about a job. These experiences were more frequently associated with the community and home than with the school.

5. The levels of vocational choices of the boys appear to be influenced to a relatively small degree by certain factors in the school program. An analysis of

the percentage of time spent teaching vocational information, the number of vocational services, or the existence of an organized course of study appears to have a minimum of influence on the levels of choice.

6. The evidence gathered suggests that there are at least three major areas to be considered in the development of vocational curricula for the adolescent mentally retarded. These are the creating of opportunities for the development of vocational concepts of self, the identification and analysis of the forces influencing the vocational attitudes of the boys, and the planning of a program whereby the retarded become aware of the structure and characteristics of the labor force in their community as it applies to them (Erdman, 1957, pp. 130-131).

Allen's study (1941) dealt with 1,000 junior high school students. Of this group, 144 subjects with IQ's below 80 evidenced no choices at the unskilled level, 47 subjects had choices at the semiskilled levels, and 24 subjects chose at the professional level. A course on semiskilled and unskilled occupations completed by the group resulted in 48 of the 144 subjects restating their choices more in accordance with their ability.

McCoy (1960) found academically successful EMH students were significantly more realistic in their self-confidence and level of aspiration than academically unsuccessful EMH students.

Studies reported by Erdman (1957) suggest a definite positive relationship existing between the level of job and the degree of intelligence which is required to perform the job. This seems to be in some conflict with Dinger's findings that personal characteristics contributed more to occupational success.

In 1957, Kirk made the following generalizations in summarizing vocational studies of the retarded:

1. Under ordinary circumstances, the large majority of boys and girls graduating from special classes will obtain and hold jobs, although they tend to change jobs frequently, like other youngsters just out of school. Their record of unemployment, however, is slightly higher than average.

2. The jobs on which they succeed most frequently tend to cluster in the semiskilled and unskilled categories of employment.

3. The mentally retarded succeed more frequently when they have been specifically assisted through training, placement, and guidance (Kirk, 1957).

These generalizations seem to hold true today in light of newer studies reported.

Studies of vocational choices of normal children as reported by Erdman (1957) showed no consistent finding. Erdman did note a tendency in some of the studies for high school youths to be more realistic in their vocational choices when intelligence was used as the criterion.

Walter and Marzold (1951) studied sex differences in level of aspiration of pupils from grades four, six, eight, and twelve. One of their conclusions was that goal discrepancy scores were significantly higher for boys than for girls. A secondary finding suggests academic success or failure was not an important factor influencing level of aspiration. As previously cited, McCoy found the reverse with EMH students.

Lehman (1951) found that parental attitudes affect job placement. Families of superior social status were unwilling to accept placement of their retarded child in lower class jobs. Peckham (1951) found that both parental and client unrealism about the retardate's capacity interfered with job adjustment. He also cited illiteracy and family overprotection as presenting problems in the job adjustment area. These findings are consistent with those of Erdman.

Selection of Population

Ninety-eight special classes for EMH students were operating in the public high schools of Illinois during the 1965-1966 school year. A decision was made to include those secondary programs with two or more special teachers of the EMH in public schools (grades 9 through 12 or 10 through 12) outside of the Chicago public schools. The state encourages the operation of a minimum of two classes in any high school program for the EMH and prescribes that the chronological age range for any given class "... shall not exceed a span of more than four years..." (Office of the Superintendent of Public Instruction, 1964, Rule 8.15, p.44). It is doubtful any given four year high school program with only one class could meet this standard. Thirteen districts, comprising 32 special classes, operated programs with two or more teachers.

Data Collection

Programs were ranked on a 60 point criteria index covering teacher personnel, diagnostic and counseling services, housing and facilities, work-study program, vocationally oriented curriculum, participation in regular classes and all school activities, administration and budget, and parent knowledge of program.

Background data on students and teachers were collected on a class data sheet.

Vocational outlook of the students was collected by use of a "Could You Ever" scale developed for this study. Skills and jobs associated with nine categories of the Dictionary of Occupational Titles were included in the scale. The scale yielded three scores for each student—appropriate yes responses, inappropriate yes responses, and net score (appropriate minus inappropriate).

Per capita educational fund expenditures were also gathered for each program from state forms.

Statistical Treatment

Nonparametric techniques were deemed most appropriate for statistical treatment of data due to unknown parameters of the population under study and the ordinal nature of the data. Rank correlations and chi square techniques were utilized to determine possible relationships between program and vocational outlook of students and other areas under study.

Results

A total of 373 students were included in the study. Two hundred two (54.1 percent) were males. Eighty-eight (23.9 percent) of the students were nonwhite. Mean CA was 16.12 years with a range from 13 through 21 years. Mean IQ was 70.31 with a range from 46 through 93. Mean reading level was 4.38 grade level with a range from 0.7 through 9.9. The mean number of years enrolled in EMH classes was 5.6.

The 32 teachers in the study were found to be young and fully trained in full time resident study. The majority had taught only high school EMH classes. Only three of the teachers had not been employed at least part time in some field other than teaching.

Major findings may be summarized as follows:

1. Significant differences in distribution of the males and females in IQ groupings with a greater proportion of females in the lower IQ group and a greater proportion of males in the higher IQ group were found to exist.

2. Rank correlations failed to reveal relationships between vocational outlook of the students and the nature of the program in which they were enrolled as defined by several indices—program offerings, services, facilities, expenditures—suggesting the influence of nonschool factors on vocational outlook.

3. Females scored significantly lower than males on measures of vocational outlook indicating the females are less appropriate in their vocational outlook.

4. The number of inappropriate responses on measures of vocational outlook decreased significantly as chronological age of the student increased.

5. As a group, the nonwhite subjects in the sample were more inappropriate than the white subjects on measures of vocational outlook.

6. The students from the fathers' higher level occupational group had significantly higher vocational outlook scores (more appropriate) than those students from the fathers' lower level occupational group.

7. A significantly greater number of students in the lower IQ group scored below the sample median indicating they are less appropriate in vocational outlook than those students in the higher IQ group.

8. The appropriateness of vocational outlook of males improves significantly following a community work experience.

Discussion

Before examining major findings, it becomes necessary to examine and discuss one significant finding on distribution of males and females in IQ groupings.

Almost twice as many females were in the lower IQ group and twice as many males in the higher IQ group. The middle IQ group had approximately even numbers of males and females. Possible explanations for this significant difference are numerous. First, it is generally recognized (Heber, 1964) that retarded males are more aggressive than retarded females and are probably more readily referred by the regular class teacher for special class placement. This referral, while partially based on intellectual ability in the borderline EMH dull-normal range, may well be based primarily on behavior. It is also quite possible where a limited number of vacancies exist for special class placement, those eligible students selected may be those with the most behavior problems in regular classes.

Second, the social graces typical of an adolescent female do not call negative attention to the individual and the regular class teacher does not detect intellectual retardation as readily in the female. Even though the female may be unable to master the academic tasks presented by the teacher, societal and peer group pressures call for more conforming classroom behavior on her part.

A third possible explanation deals with the larger number of females in the lower IQ range. The female with an IQ below 60 may be identified rapidly as a potential sex delinquent if she remains in a school situation where brighter males may be in a position to take advantage of her. In cases of this nature the regular class teacher making the referral may view the special class as more protective due to the closer relationship to the self-contained classroom and smaller number of children enrolled. Henderson (1957) found sex delinquency as a contributing factor (15.5 percent) to commitment of the EMH to Illinois state schools for the retarded. In New York City, Saenger (1960) found that sexual offenses among retarded girls with IQ's above 50 almost invariably led to institutionalization.

A fourth possible explanation relating to the smaller number of males in the lower IQ range is related to the school dropout problem. The male is more able to leave school at the upper limit of mandatory attendance, 16 years. This may be particularly true of the males in the EMH group. Again societal pressures on the female are more strict in this regard.

Fifth, the lower number of males in this lower range may be related to more aggressive behavior on the part of the males in general. A child in the 50 to 60 IQ range may be declared either educable or trainable under present Illinois regulations. Maximum class size for trainable is ten children, while EMH classes may enroll up to 15. Behavior may be a basis for placement in the smaller class. It is possible more males in this range have been declared trainable and are thus not found in the classes included in this study.

The population consisted of 202 males and 171 females. Prior to the study, the investigator would have estimated that the number of males would have been twice the number of females. This estimate would have been based on the investigator's ten years experience with public school classes for the retarded. Followup studies reported in the literature also consistently report a large majority of males. A possible explanation for this finding could be related to the dropout problem and the large number of students residing in the higher socioeconomic suburbs around Chicago.

While the investigator anticipated relationships between the measures employed for rating secondary school program offerings for the retarded and appropriateness of vocational outlook of the EMH students enrolled, this was not found to be true. Program ranking, educational fund expenditures, and teacher mean scores all yielded small, insignificant correlations with vocational outlook.

This finding suggests that nonschool factors exert greater influence on the vocational outlook of the EMH. Erdman (1957) concluded the home and community exerted greater influence on vocational choice of EMH males. Gorelick (1966) in a concurrent study in California found the family influenced the degree of realism. Even in the case of "Teacher X" who obtained highly significant net and inappropriate scores indicating extremely inappropriate estimates of the job capabilities of the EMH, the students enrolled in the class of "Teacher X" did not differ from the population in their scores.

A limitation of this study which may have influenced these results is that no attempt was made to measure quality of program or service; the only consideration was its existence. By selecting only those programs with two or more classes, it is implied the range of difference was reduced considerably.

Quality of program may provide a possible explanation to the results found with Programs B and K. While Program B ranked second on the Criteria Index, the students mean net score ranked thirteenth, and in Program K almost a reverse was noted with a Criteria Index ranking of eleventh and student mean net score ranking first. The only significant correlation between program ranking and student mean scores obtained was negative and was highly influenced by the presence of Program B and K in the suburban programs. A positive correlation approaching significance was obtained when Programs B and K were removed from consideration. Data collected failed to reveal the reason for these differences.

The lack of significant correlations with the program and the expense factor utilized may be explained by the various types of districts included in the study. It is recognized high school costs per pupil exceed those of elementary. Unit districts and a special charter district with kindergarten through 12th grade programs, high school districts with 9th through 12th grade programs, and joint agreements comprising both elementary and high school districts with the costs being averaged to arrive at the expense factor were compared as one group. No one type of district was predominant and costs of secondary programs only were not available. Could either one type of district have prevailed or costs of secondary programs been collected, significant correlations may have resulted.

It can be hypothesized that extensive counseling with parents as to the job capabilities of their EMH child may be a possible means in helping the child become more appropriate in his vocational outlook.

Significant chi squares were obtained with student scores and the variables of sex, age, race, father's occupation, father's educational level, IQ, and work experience.

A significant number of females scored below the sample median on net score. The reverse was true for the males. While significant differences were found on the appropriate score, none were found for inappropriate scores.

This result is hypothesized to be an effect of the greater number of females in the lower IQ group and a greater number of males in the higher IQ group. Apparently the lower intellectual level of the females makes it more difficult for the females to select the appropriate tasks. Another possible explanation for this finding is that in our society the male is the traditional provider for the family and adolescent females may not be as concerned about vocations since they anticipate marriage and raising **a** family.

A significant number of the older students made less inappropriate responses than the younger group. It appears, as anticipated, the students become less inappropriate in their responses as they increase in age indicating the older students are more capable of realizing their limitations with respect to jobs and skills. Gorelick's (1966) concurrent study also found this to be true.

The number of nonwhite students above the sample median on inappropriate score constituted the majority of the nonwhites in the population.

It is hypothesized this finding is a result of the present day civil rights movement. A major emphasis in the civil rights movement has been to employ qualified nonwhites in positions heretofore not open to them due to race. Efforts have also been made to encourage nonwhites to obtain as much education and training as possible. The educable mentally handicapped nonwhite quite possibly is unable to discriminate the inappropriate items on the"Could You Ever" scale in light of the push for better education and jobs for qualified nonwhites. The investigator would hypothesize that prior to the civil rights movement this finding would not have resulted.

The majority of the students in the fathers' lower occupational level group scored below the sample median on net score, while the majority of the higher group scored above the median. This result again suggests the influence of home factors on the vocational outlook of the EMH. The students from the higher occupational level group may feel they would be able to obtain a greater number of jobs based on what their fathers could do. Those students from the lower level occupational group tend to underestimate their capabilities and the number of jobs available to them.

It appears educational level of the father does not play as important a role in his EMH child's vocational outlook as does father's occupation. A limiting factor is that data collected on father's educational level is primarily on the basis of student report and may not be as accurate as father's occupation and other data collected from student records.

The majority of the lower IQ group scored below the median on net score. The reverse is true for the higher IQ group. This finding is similar to that on sex where the majority of the females scored below the median on net score. Also the fact that significantly more females were found in the lowest IQ group should be recalled. Again it appears those students in the lower IQ group have more difficulty in selecting the appropriate tasks. In effect they are possibly more cautious due to many failures and frustrations which results in an underestimation of their capabilities.

The majority of students with no work experience, with inschool experience, and sheltered workshop experience scored below the median, and the majority of those who had held community jobs scored above the median.

It is hypothesized holding a job in the community has definite implications for assisting the EMH student to become more appropriate in vocational outlook. The inschool and sheltered workshop experiences tend to make the student more cautious in deciding the appropriate tasks. These are usually the first work assignments the student has and they precede the community experience.

An implication of this finding is for the inclusion of community work experiences in the special program for the EMH. This finding supports the opinions of authorities, relating to a work program being a part of the high school program. However, it is also quite possible those students placed on community jobs are those with an appropriate outlook prior to the placement. Further study of the influence of community work experience by the pretest posttest design may be of value in resolving the question.

Further analysis was done on work experience controlling for the other significant variables of sex and IQ.

It was found no significant relationship existed between work experience and the net score for females. The males did show a significant relationship as evidenced by the large majority scoring over the median on net score following community work experience. Community work experience appears to be a critical factor for males as it relates to vocational outlook.

The only significant chi square found for work experience and student scores controlling for IQ was found for the low IQ group and appropriate score.

Community work experience apparently assists the lower IQ group in becoming more appropriate in their responses. This may well be a result of actually being able to obtain a job after much failure and frustration in academic and social aspects of the school.

There appears to be no difference in the socioeconomic factors influencing the students as they relate to work experience and student scores. Significant relationships were found only when fathers' occupational and educational levels were dichotomized by the median and not when these variables were regrouped and combined in an attempt to find differences within social classes.

A composite description of the EMH student who would be most appropriate in vocational outlook as measured by this study would include the following:

Sex:	Male
Age:	16 or over
Race:	White
IQ:	75-90

Work Record: Has had community work experience
Father's Occupation: Skilled worker or above

Obviously, all EMH students cannot be made to fit this description.

Implications for Program Planning

Where do we go from here may well be an appropriate question at this point.

How do we incorporate this study in program planning?

1. If the characteristics of the sample, as found in this study, are representative of high school EMH students, program planners must consider the fact that half the students to be served are females. While this may seem obvious, considerably more males than females have been found in EMH classes in the past as evidenced by followup studies reported in the literature. Program planners must also consider the fact that a significantly greater number of females were found in the lower IQ group and were less appropriate in their vocational outlook than the males. Elements of the program planned should attempt to offer activities geared to the female student, keeping in mind the intellectual level of the females in this sample.

2. The lack of relationship between school program and vocational outlook found in this study definitely suggests the influence of nonschool factors on vocational outlook of the EMH. Findings also suggest the influence of the home as it is related to father's occupation. Two possible measures which might be considered to better utilize the influence of nonschool factors are:

    a. Increased parent counseling to further explain vocational goals for the EMH adolescent.

    b. Increased public relations efforts through news media and speaking engagements of staff members before community organizations to develop a better awareness of the capabilities of the EMH.

3. Inclusion of a work-study phase in a high school EMH program, while recommended by authorities for many years, did not exist in all the programs included in this study. Based on the findings of this study, community work experiences appear to be critical for males and those students in the lower IQ group in assisting them to become more appropriate in vocational outlook. Work-study experiences, particularly in the community, should be planned for high school EMH programs. It is quite possible the narrow range of jobs available to the female influences the effect of community work experience on their vocational outlook. Thus, stress should be placed on finding a wider range of community work placements for females.

Implications for Future Research

This investigation can be classified as an exploratory study, to answer questions about the existing high school EMH programs in Illinois and the vocational outlook of students enrolled in these programs. Several questions remain unanswered:

1. The Program Criteria Index used to rank the thirteen programs in the study did not attempt to measure quality of program offerings or services. A future study in which quality of program and services is examined may reveal relationships between school program and the vocational outlook of the EMH.

2. The data failed to reveal whether community work experience actually

assisted the EMH adolescent in developing a more appropriate vocational outlook or whether those students with the more appropriate vocational outlook are the ones selected for community work experience. A longitudinal study with vocational outlook tested prior to and following community work experiences is needed.

3. If nonschool factors are major determinants of vocational outlook of the EMH, as results of this study seem to imply, parent counseling would appear to be a crucial aspect of the school program. An empirical study of the various types of parent counseling could be used to verify this implication.

The teacher variable in high school EMH programs appears to be a critical factor. Training of EMH teachers has traditionally been oriented at the elementary school level. Many of the problems encountered by the secondary teachers are not presently explored in many training programs. What is a possible solution? Based on experience and observation, selecting secondary EMH teachers from those secondary teachers trained in home economics or industrial arts might be one solution. A few basic courses such as surveys of special education, mental retardation, remedial techniques, measurement, and counseling would appear appropriate. First the secondary EMH teacher must deal with the adolescent, and second, the retarded adolescent. Successful teaching experience at the secondary level in home economics or industrial arts would be beneficial.

The students in secondary programs do not like being treated like elementary students. The fully trained EMH teacher may often get off to a bad start by using elementary methods with secondary EMH students. They do and probably should rebel.

While the prevocational counselors on our local staff are apprehensive to the thought, we are considering employment of a female prevocational counselor. This brings the administrator's constant headache of the progressive disease (pregnancy) to a relatively hitherto "safe" area, but the female counselor could better pursue work-study placements and inschool placements for the female students.

Since the family seems to be a major factor in determining the vocational outlook of the EMH, we must consider devoting more time to working with parents. In many cases, both parents are employed, and this may require employing prevocational counselors for work in the evening hours.

While the study reviewed did not indicate significant differences in the area, this biased investigator still feels advantages exist when at least one female teacher works in the secondary program. The female students in the program may well benefit from a teacher of like sex with whom they may identify and confide in.

Adolescents are sensitive. The location of the special classroom in the secondary building may well create a stigma for the student. The class in the shop area or at the end of the hall next to the door doesn't appear to ease peer problems for the EMH. Being in the mainstream of the school appears far better.

A final word must be said in regard to the reward for successfully completing the program. This requires a well structured curriculum with specific course titles and descriptions. It does take a little time. Regular diplomas should be awarded upon successful completion.

Secondary programs for educables will continue to develop at a rapid rate. The administrator faces a challenge to offer a good program. Let's hope we have some idea of what constitutes a good program.

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TEACHING THE SOCIAL STUDIES UNIT

Laura J. Jordan

The unit teaching organization assumed in this paper is the allotment of a specific period of the day to unit activities. Other subject matter may or may not be correlated with the unit, as seems most natural. For example, the story of a successful unit field trip might be written by the teacher for use in a reading class, or arithmetic lessons on story problems concerning the cost of ordering various meals could be used effectively along with a social studies unit on restaurants. This correlation with other subject areas is highly desirable, primarily because it promotes transfer, and also because a popular unit can add meaning and provide motivation for more routine work. No teacher should feel compelled to relate all of the day's work to the unit. Under that misconception we find such labored associations as "counting the number of experiments," designated as arithmetic lessons.

Selecting Objectives

Once the topic has been chosen, decisions have to be made as to just what parts of that topic shall be taught. A unit on foods can have learnings as simple as the names of the three daily meals and the fact that milk is good for children. Learnings may be as complex as a study of nutritional content in terms of vitamins and trace minerals. A class could study nutrition, table manners and serving, and simple diets for certain illnesses. It could study the origin, handling, preparation, and processing of food. It might study jobs related to agriculture, dairying, food handling, and any number of other factors. Putting all of these into one unit results in problems. Time is one: how long would it take to teach all of this? Ability level is another. Some learnings are appropriate for young children and some for older children; necessary background learning must also be considered. No one would advise trying to teach how to divide or double a recipe before teaching fractions, multiplication, and division. There are priorities, too, according to what the children need to know at each age. A knowledge of vitamins and minerals won't help children to be accepted in the school cafeteria if they lack basic good manners. We can develop some guidelines to use in making these decisions.

What do the children need to know? There are two parts to this answer. First, what information is important enough to adult life that it merits inclusion in the curriculum for the educable mentally retarded (EMR)? It will be very useful for the EMR to know that a driver's license is required in order to drive, and to know how it may be obtained. On the other hand, it is not necessary to learn the names of early explorers or the planets in order of magnitude, in order to function as an adult. Since the retarded have a reduced capacity for learning, that learning time should be devoted, first and foremost, to those things they will need and be able to use. Look at unit objectives and ask, "Do they really need to learn this, or is it included just because it is traditional, convenient, or a cute idea?"

The second part of the answer involves deciding what this particular class needs to know now. While the eventual adult needs of the EMR students may be quite similar, immediate needs vary from class to class. Some factors to be considered in pinpointing these immediate needs are as follows:

1. Where do the children live? If they are to be both safe and accepted, urban children need to learn such things as how to cope with traffic, to cooperate with patrol boys and crossing guards, and to run an errand to the neighborhood store. Rural children need to learn about behavior on long schoolbus rides, safe conduct around animals and machinery, and how to tell the difference between a plow and a harrow.

2. Besides the urban rural division, there are geographical differences. Safe and comfortable living in southern Texas and northern Idaho requires different knowledge. Each part of the country requires certain specialized learnings. Weather and safety are two topics that would be taught quite differently.

3. Finally, in what kind of neighborhood do the children live? Specifically, what do the neighbors expect of children their age? Although it may be more economical in time and effort to teach it later, a teacher may decide his class needs to learn now how to tell time, to make change, or to ask a girl properly for a date, in order to minimize their difference and help the children meet social expectations, and thus avoid damaging comparisons that call attention to their retardation.

Individual judgment must still be used, whether the school district lists certain unit topics to be taught in a given year or not. These varying considerations point up one reason why social studies units cannot be taught as they are presented in even the best social studies text.

What are the children ready to learn at this time? Many teachers forget to check what the children already know. This could be done by a test, but probably more effectively through discussion. Bring in pictures or prepare a bulletin board to arouse interest in the topic. Give the children something to talk about, ask them questions, and then listen for what they know. List the questions they cannot answer or the concepts for which no one volunteers even when given a good opening.

In the "old days" of special education, when the program for the retarded was described in the vaguest terms, only the individual teacher knew and was responsible for what went on in his classroom. When children were promoted to the next class, they could meet a totally different program for which the previous one had not prepared them. The new teacher had his own mental picture of what they were supposed to have learned by that time. This left obvious possibilities for gaps in the children's education and for unnecessary overlap.

The situation is changing. As special education departments grow, the teachers of the retarded increasingly plan together the social studies program, outlining topics and major objectives for each level. This does not, however, eliminate the need for a precheck for each unit. Just because information was presented, it was not necessarily learned. What was learned is not always completely retained. Not every system is so fortunate as to have a large staff of special education classes. We still find in many places the teacher who is a pioneer in his district. There are children in all classes who have not always been in special education. It is still necessary to check what they know, assuming neither knowledge nor ignorance.

Don't be thrown off by vocabulary. Sometimes a child has the concept, but lacks the word, such as the boy who didn't know the word for "thermometer," and referred to one pictured in a doctor's bag as, "Like that thing that hangs out back of the barn that tells you how cold it is in the morning." Conversely, a child may have the words, but little understanding of the concept. One class knew that the birds' leaving was a sign of coming autumn. This sounded encouraging, until further discussion produced a sharp split of opinion. Some thought the birds went north for the winter, while the rest insisted they went underground!

One of the basic rules of teaching the retarded is to move from the known to the unknown, to base new learnings on what is already fully understood. This means making sure the children have the necessary skills on which to build new concepts.

Most teachers are familiar with the unit construction format in which objectives are listed down the left margin, and subject areas across the top. This is a convenient way to lay out unit activities to see where the unit correlates with language arts, arithmetic, etc. It is also a good format for laying out plans in order to see whether the class is ready for certain of the objectives. If the class is studying travel, and one of the objectives is, "Learn to read a timetable or flight schedule," in the basic arithmetical learnings the teacher would list, "Understanding of time notation and how to figure, read, and write clock time." If the objective is, "Learn to figure fares," the students need to read the names of cities easily. To compare relative cost per mile of bus and plane travel, they need multiplication and long division. This format is especially useful to the new teacher of the retarded, who remembers what he himself learned at each age or unconsciously assumes that the retarded know what normal children slightly younger should know.

Should they lack any of the prerequisites, the teacher has two choices: (a) he can omit or change that particular objective of the unit, or (b) he can postpone the whole unit until the necessary background skills can be taught. If, on the other hand, the majority of the children are ready, it is time to teach.

Types of Learnings

Each social studies unit should include several types of learnings and different kinds of content. Dr. Herbert Goldstein has suggested a useful organization of learnings, dividing them into (a) the physical, (b) the social, and (c) the psychosocial. Physical learnings are the tangible "things" in the environment. In a unit on travel, some physical learnings would be cars, buses, trains, tickets, schedules, and depots. Social learnings are the social roles important to the topic. In the travel unit, some roles are those of conductor, bus driver, and ticket seller. What is taught about them is essentially how a role is defined or recognized: what he does, how he dresses, where you would expect to find him. Finally, the psychosocial learnings are the interrelationships between the learner and the roles and things he is studying. Here psychosocial learnings would include how the student himself could buy a ticket in his own particular town, how his conduct on the bus or train would affect the behavior of others toward him, whether the bus driver has the right to insist that he follow the established safety rules, and his attitude toward compliance with travel regulations. Ideas of mutual interdependence, responsibility, and attitudes are examined and taught in this area.

Most teachers do a conscientious job on the physical and social aspects. It is the psychosocial area that is apt to be overlooked or touched on too lightly. It is often said that students learn better when they are actively involved in a situation. This is a good way to get that involvement. "How do you feel about...?" "Do you like...?" "Have you ever...?" "What would happen if you...?" These questions are important for the children to think and learn about. This involvement is what makes a unit come alive, become real and urgent and worth studying. Without it, there results the familiar paradox of the child who can recite the correct way to take care of coughs and sneezes, yet never does so when he has a cold; or the child from the underprivileged home who learns at school many nice phrases about the policeman as a community helper, and remains completely and privately unshaken in his conviction that policemen are his natural enemies. The most unfortuante part is that the teacher may never know that this child was not reached, if he was so busy teaching his students physical and social facts that he neglected the psychosocial aspects.

Almost every social studies unit will have some of each of these three types of learnings. In most cases there should be a good balance, although some units will be naturally heavier in one than in another. It is my feeling, however, that without successful teaching of the psychosocial learnings, the social and physical will never be maximally useful to or used by the child. This is the catalyst that changes "something you learn at school" into "something I know."

How can interrelationships be taught? This is difficult to answer because there is such an infinite variety of relationships. A few statements will, however, apply generally.

1. The teacher must be quiet and give the children a chance to talk. All classroom behavior studies show the teacher doing from fifty percent to most of the talking. This seems to be true also in classes for the retarded, in spite of our knowledge that the children tend to be low in language skills and in greater need of practice than the teacher. Any internalized understanding of of attitudes, responsibilities, and the like is not absorbed through lectures. Give your children the opportunity to talk things out and participate. This takes restraint on the part of most teachers.

2. The psychological atmosphere of the classroom must be relaxed and free enough so that a child can state his feelings unafraid of censure or undue ridicule. Disagreement between children, expressed in a fairly civilized manner, can be very healthy. Disagreement with the teacher, no matter how

polite she is, may be very risky, if that teacher is also inflexible, easily shocked by exposure to a value system other than her own, or apt to regard disagreement as an attack on her authority.

3. A child should be helped to realize his own system of values, whatever it may be. Emotional reactions for which we do not understand the basis are dangerous, both for the person having the reaction and for innocent bystanders, as witness our difficulties in racial harmony today. To protect the children from propaganda and from those who would take advantage of their credulity for their own purposes, we need to help the retarded individual establish what he really believes. Whether you as his teacher approve of this value system is beside the point. We'll never teach a child to examine his beliefs and express his opinions, which are probably those of his parents, by telling him that he and his parents are wrong. There is, of course, no reason at all why the teacher cannot share his own values and opinions and tell how they were arrived at, using this as a teaching device. If the children admire their teacher, they are more likely to want to do as he does. The undemocratic error so often made is to exact lip service to one set of values, forcing the child either to renounce his family's system or to buck the teacher's.

Some direct ways of increasing the psychosocial value of a unit might be the following:

1. Rather than reading or seeing movies about persons in a particular role, such as a school janitor or insurance salesman, have someone who does that work come in to talk with the class. Talking about a "community helper" in the abstract or with pictures can teach basic information, but speaking with an individual with a personality who does the work makes personal reaction far easier and more real.

2. Open ended questions encourage this kind of personal involvement—questions to which there can be no one "right" answer. Some of these are "What do you think... ?" "How did you like... ?" or "What would you do if... ?"

3. Teach behaviors over which the child himself can have control. If their parents lack the money or the concern to follow through, teaching the children that they should see a dentist twice a year can do no more than raise the anxiety level or convince them that school and reality are far removed. They can, however, be personally responsible for brushing their teeth regularly and for controlling the amount of candy eaten, so let's concentrate most heavily on these factors. Teach realistically, or everything may be regarded as a fairy tale.

Types of Lessons

We have been discussing the content; now let's turn to the types of lessons through which content may be presented. Each unit should include activity, such as experiments or making a mural; observation, such as movies or talks and demonstrations by resource persons; and study, such as listening to and reading stories and reports or taking tests. Activity lessons involve the child most directly and are multisensory, adding vividness. Observation lessons help make up for the verbal deficit of many children, as they watch or use visual aids. Study lessons consolidate, reinforce, review, and evaluate what the children have learned.

Here, again, two of the three tend to be overused. Real, purposeful activity is frequently in short supply. By purposeful activity I don't mean just an avalanche of correlated art projects, such as decorating unit notebooks or drawing pictures of the field trips. These are desirable, but they aren't enough. What about the activity content of your lessons taught in social studies unit time? Many units have died an untimely death through too much discussion or inevitable copying of lists and statements from the board. Most of us are hampered from being as creative as we should because of our own school background experiences, either as pupils or as elementary teachers. We harbor the notion that certain things are "done" or "not done" in school, rather than asking why we approve or disapprove them. Every modern publication on the culturally underprivileged or the educationally alienated pleads with teachers to recognize that traditional methods cannot reach or adequately serve these children—and many, many of the retarded fall into these groups. Purposeful activity is one of the ways to help.

One means is to let the unit appear as the outgrowth of a project, rather than vice versa. Get the class interested in doing or making something, in the course of which it will become evident that they need to get more information. If you want to study foods, why not start first with the more exciting idea of the children's building their own play store? Field trips will become necessary to find out how departments are arranged or to settle disputes over whether lettuce is with the fruits or vegetables. No store is complete without advertisements showing how goods are priced, and so it goes. Similarly, a classroom bank could be set up, ostensibly to handle lunch, milk, and Jr. Red Cross money, but actually to study banking or budgeting. One teacher asked the class to help him decide which secondhand car to buy. This led them into financing, insurance, budgeting, mechanics, and driver education. Please note that it was not the teacher but it was the children's need for knowledge in order to make a decision that led them through this work. Making a model of something or a floor plan of a building are other good openers. Experiments that don't work can be more successful than those that do, if they lead to active involvement in finding out what happened. Again, one class was given the opportunity to eat at a smorgasbord restaurant. Few of them had eaten out, and the immediate questions were, "How will we know what to choose?" "How much will it cost?" and "How will we know how to act and where to go?" With an opening like that, the unit is all set.

In all of these cases, the central activity led to other activities: going in order to find out, constructing, and practicing. Activities that are real also increase the tolerance for solid study, because the need becomes real rather than academic.

Culminating Activity

Finally, let's think about the culminating activity. Its purpose is to signal to the children that something has been completed and remind them of what they have learned. In Gestaltist terms, its function is to provide closure. Retarded children do not readily recognize the point at which a long range goal is reached. The culminating activity should be planned early in the unit, and be vivid enough that the children cannot miss it as a goal. Because the children have a weakened ability to generalize, the culminator should also provide them with an example of something they can do with the information gained. From all of this certain desirable characteristics of a culminating activity can be gleaned.

1. It is planned with the children early in the unit, not in the teacher's mind only. The children need to see it as a goal, and know what they are working toward.

2. It is vivid, interesting. The culminator should be able to provide motivation for lessons that are necessary but not too intrinsically motivating. If it is vivid, it will not be overlooked as just another lesson. Reward should be built into it.

3. It utilizes the learnings in a way that helps the children see their application. This means something outside the ordinary run of lesson material. Part of

its function is to show how the material is useful outside the classroom, to give learning a more practical motive than merely pleasing the teacher.

A test has frequently been used as the culminator. This may be adequate for normal children, but for the retarded it definitely does not fulfill point three, demonstrating some use outside the classroom.

Perhaps a better idea is for the children to demonstrate what they have learned by putting on a program for another class, or inviting others in to see an exhibit they have set up. One or more of the regular classes should provide the audience whenever possible; most children in special classes recognize a difference between their situation and that of children in the regular grades. Approval from the latter seems more reinforcing because it is more related to "the real world" in the children's eyes. Since the skills of the retarded will eventually be measured against those of the average, this seems a rather valid perception. If the result of several weeks of study would have no value to normal children even several years younger than the retarded class, the unit may need rethinking. Remember, the learnings of the two classes, normal and retarded, should be qualitatively different, and therefore not judged even by the children on a strictly academic scale.

A pupil made book on the study topic has been used. This can be exciting, especially to children who hardly believe that what they say could be interesting enough for someone to record. Obviously it needs early planning, so the children can see it grow to completion. Again, however, it lacks an out of the classroom application. What is done with the book? Usually it is kept for the class to read.

Perhaps the most satisfactory culminators, from every standpoint, are those in which something tangible is constructed—something one can show off with pride or use outside the classroom—or in which the children do something which requires the newly learned skills. One old favorite is the preparation and serving of a meal. Nothing is more universally popular than food! Planning the meal may be the initial motivator, and serving it the culmination. During the process, the class can see a purpose in studying many things, from marketing to preparation, nutrition, and company manners. The visit to a restaurant mentioned earlier is of the same type. The children were at once interested, so there was motivation. Before the visit could be carried out, many learnings were needed. One of my students in a suburban school taught a unit on travel within the city. For her motivator culminator she wrote to one of the local big league baseball clubs and received free tickets for the class. The interest was obvious, and there was no doubt that they had learned how to get from the school to the field, utilizing several types of transportation. They arrived, and on time.

On a smaller scale, a teacher wishing to review the units already taught on community helpers gave each child a shoe box, a clothespin, and the name of one type of community helper. The unit was built around seeing how much detail each could get into converting his clothespin into this helper and the shoe box into the building in which he worked. A class trying this could decide at the outset what was to be done with the finished products; were they to be made as toys for a younger brother or sister or as teaching aids for the first grade room?

A culminator, in short, seems most effective when it is itself the apparent purpose of the unit, not something tacked on at the end. It should be a source of purposeful activity, and provide reward enough to carry the class through the more difficult phases.

In conclusion, one more point should be made. Many classes have a rather wide diversity of ability levels, and all are made up of a group of children heterogeneous as to learning problems. The one factor most threatening to the success of classes for the retarded is the tendency to teach all of the children the same things in the same way.

If all could learn alike there would be no need for small classes for the retarded. The unit approach to social studies is one of the easiest ways to diversify teaching. If there is a project in process, rather than just a series of lessons being taught, there should be a great many different kinds of things that need doing, some requiring visual skills, some auditory. There will be a need for the best readers to read and report to others. Construction provides motor practice, while any large project calls for cooperation. Which children need a chance at leadership, and which need practice in learning to follow? Someone can surely use the experience of helping another less able than he.

The "Doctrine of Individual Difference" puts retarded children into special classes. Let's see that it also dictates individualized instruction after they get there. Social studies activities, which are hard for the children to compare with the work of any given grade, are an ideal place to start.

ACADEMIC ACHIEVEMENT OF BRAIN INJURED AND HYPERACTIVE CHILDREN IN ISOLATION

Kim J. Rost and Don C. Charles

Hyperactive and distractible children, whether brain damaged or not, are difficult to handle in the classroom. Some reduction of extraneous stimulation is often attempted to help the students concentrate on academic learning. Strauss and Lehtinen (1947) suggested small groups in large classrooms so that students could sit a distance away from each other. They also proposed keeping extraneous stimuli to a minimum, e.g., no bulletin boards or pictures, the teacher plainly dressed with no earrings or bracelets, and so on. It was recommended that the desks of extremely distractible students be placed in contact with the wall, so that these children's backs would be toward the rest of the class. In a later report (Lewis, Strauss, and Lehtinen, 1951), the authors reported that when the child was seated with his back toward other children, he experienced a sense of relief or relaxation.

There has been little research to support these recommendations. Cruickshank, Bentzen, Ratzberg, and Tannhauser (1961) carried out a pilot study utilizing extensive diagnostic criteria to study the effects of visual isolation of brain injured and hyperactive children on several variables related to performance. From experience gained in this study the authors inferred four elements comprising an ideal environment in which to teach brain damaged and hyperactive children: reduced environmental stimuli, reduced space, structured school and life plan, and increased stimulus value in teaching materials. They defined reduced space as cubicles about three feet square and seven feet high, painted the same color as the room, and solid to the floor but open on one side. The child was to sit in the cubicle facing the wall. The researchers hypothesized that such a nonstimulating environment would help to control hyperactivity, distractibility, and disinhibition, thus helping the child to learn more efficiently.

In trying out these ideas experimentally, Cruickshank and his colleagues found that both experimental and control groups demonstrated significant improvement in achievement, as measured by the Stanford Achievement Test, over a twelve month period. While there was a slight trend toward greater improvement in the experimental group, there were no significant differences between the groups. Some caution must be used in interpreting results, because the study was descriptive and lacked rigidly controlled conditions. It seems apparent that more research is needed to test the effectiveness of isolation on school learning.

Problem

The purpose of this study was to investigate effects of visual isolation in a classroom on a population of brain injured and hyperactive children.

Subjects were 21 children, two entire classrooms in the primary and intermediate special education classes of Boone, Iowa. Each class was divided into two groups on the basis of Wide Range Achievement Test scores.

The control group in the primary class consisted of three males and one female. Ages ranged from nine years, eight months to seven years, one month, with a mean age of eight years, seven months. Full Scale IQ scores, as measured by the Wechsler Intelligence Scale for Children (WISC) during the 1964-1965 school year, ranged from 67 to 74, with a mean of 71.25.

The experimental group in the primary class consisted of four males. Ages ranged from eight years, three months to nine years, four months. Full Scale IQ scores, as measured by the WISC during the 1964-1965 school year, ranged from 65 to 74, with a mean IQ of 68.75.

The control group in the intermediate class consisted of four males and three females. Ages ranged from 10 to 12 years, with a mean age of 10 years, 11 months. Full Scale IQ scores, as measured by the WISC during the 1964-1965 school year, ranged from 51 to 76, with a mean of 67.86.

The experimental group in the intermediate class consisted of three males and three females. Ages Ranged from 11 years, one month to 12 years, 5 months, with a mean age of 11 years, 10 months. Full Scale IQ scores, as measured by the WISC within the 1964-1965 school year, ranged from 59 to 73, with a mean of 67.33.

The children were examined by a neurologist and more than half of the children in each group were diagnosed as brain injured with mild retardation. There were no noticeable physical handicaps among the four groups. Causes of brain injury ranged from no known cause to anoxia at the time of birth. The rest of the children, while not diagnosed as brain injured, showed some of the symptoms of the Strauss syndrome, including hyperactivity, distractibility, and/or perceptual disturbances. Therefore, since all children displayed hyperactivity, they were all included in the population of the study.

Materials

The Wide Range Achievement Test was used for both pre- and posttesting. The classrooms were in the basement of the school building with all windows above eye level along the back wall of the room. Students' desks faced the front of the room and the teacher's desk was at one side. Booths were placed along the back wall of the room, so that each booth had two plastic sides and the back wall of the room, with the fourth side open. Walls of the booths were constructed from white corrugated translucent plastic and mounted on a wooden frame. Each of the walls was four feet high by three feet deep, and was raised six inches off the floor. Students' regular desks were moved into the booths.

Procedure

Each child was given the Wide Range Achievement Test early in September. The scores were ranked, and the experimental group was chosen by rank and control groups were matched at each level. (See tables 1 and 2). Teachers were instructed to introduce the booths as they would introduce any new learning experience and to explain the

Table 1

Pupil Characteristics: Pre- and Posttest Scores, Primary Special Education Class

Student	Age	Sex	IQ	Achievement pretest, grade placement Reading	Achievement pretest, grade placement Spelling	Achievement pretest, grade placement Arithmetic	Achievement posttest, grade placement Reading	Achievement posttest, grade placement Spelling	Achievement posttest, grade placement Arithmetic
Control group									
1	7-1	M	72	1.0	0.8	0.2	1.1	1.0	1.1
2	9-8	M	72	1.7	1.8	2.9	2.0	2.1	3.3
3	8-11	M	74	1.2	1.6	1.5	1.4	1.6	2.3
4	8-9	F	67	1.5	1.6	1.4	1.8	1.8	2.3
Experimental group									
1	9-4	M	74	1.7	2.1	2.3	1.5	2.4	2.2
2	8-7	M	67	1.8	1.5	1.4	2.0	2.1	2.3
3	8-3	M	64	1.1	1.0	0.4	1.2	1.3	1.2
4	9-0	M	70	1.4	1.3	1.5	1.4	1.6	1.4

purpose of the booths in such a manner as to reduce any student apprehension.

Table 2

Pupil Characteristics: Pre- and Posttest Scores, Intermediate Special Education Class

Student	Age	Sex	IQ	Achievement pretest, grade placement			Achievement posttest, grade placement		
				Reading	Spelling	Arithmetic	Reading	Spelling	Arithmetic
				Control group					
1	12-0	M	71	3.0	3.0	2.9	3.5	3.0	3.8
2	10-9	M	76	3.4	3.5	2.9	3.9	3.6	2.9
3	11-11	F	65	2.3	2.5	2.9	2.5	2.6	2.5
4	10-11	F	51	0.9	1.0	0.9	1.0	1.0	0.9
5	10-6	F	72	1.8	2.2	2.3	2.3	2.4	2.7
6	10-8	M	68	3.2	2.8	1.8	3.0	3.2	2.7
7	10-0	M	72	1.8	1.9	2.7	1.9	1.9	2.7
				Experimental group					
1	11-1	M	64	2.7	2.7	3.1	3.2	3.0	2.9
2	11-7	F	59	1.0	1.3	2.2	1.3	1.6	2.0
3	12-0	M	77	1.9	2.2	2.9	2.3	2.4	3.5
4	12-1	M	69	2.9	2.7	2.3	3.5	3.0	2.3
5	11-10	F	73	4.3	4.0	3.1	3.7	3.7	3.3
6	12-5	F	62	2.2	2.1	3.1	2.1	2.9	2.9

Both groups studied reading, spelling, language, arithmetic, science, and social studies. Science and social studies were taught two or three times a week; the other subjects were taught every day. For a lesson in which there was class participation or teacher explanation, all the students sat together and participated. When an assignment from a workbook was given or a passage to be read silently was assigned, the experimental group left the center of the classroom and went to their booths at the back of the room. Each child was assigned to his own booth or "office." Each child in the experimental group spent one and a half or two hours of his five hour day in his booth.

At the end of the first semester, in late January, each child in each group was retested with the Wide Range Achievement Test, and the results of this posttest were compared with those of the pretest in September.

Results

Pretest and posttest scores for each subject are shown in Tables 1 and 2, and mean scores are shown in Table 3. An analysis of variance (shown in Table 4) was carried out for each group over subject by measure on each subtest. The means from each of these analyses were then used to compute a three way analysis of variance over treatment by grade by measure for each subtest. Differences beyond at least the .025 level were found for grade (primary versus intermediate) and for measure (pretest versus posttest) for all three subtests. There were no significant differences between the experimental and control groups for any subtest.

Table 3

Mean Grade Levels of Achievement

	Pretest			Posttest		
	Reading	Spelling	Arithmetic	Reading	Spelling	Arithmetic
PC	1.35	1.45	1.50	1.58	1.62	2.25
PE	1.50	1.48	1.40	1.52	1.85	1.78
IC	2.34	2.43	2.34	2.59	2.57	2.60
IE	2.50	2.50	2.57	2.68	2.77	2.78

Table 4

Analysis of Variance of Subject Performance
(T = experimental-control; G = primary-intermediate;
M = pre- posttest; S = subjects)

	df	SS	MS	F	
			Reading		
T	1	7.7735	7.7735		
G	1	1069.8500	1069.8500	8.30	.01 P .025
TG	1	1.4547	1.4547		
S/T&G	17	2190.8803	128.8800		
M	1	28.2410	28.2410	6.08	.01 P .025
MT	1	4.1600	4.1600		
MG	1	1.9172	1.9172		
MTG	1	1.2190	1.2190		
SxM/T&G	17	79.0258	4.6486		
			Spelling		
T	1	20.3365	20.3365		
G	1	896.3628	896.3628	8.83	.01 P .025
TG	1	.3365	.3365		
S/T&G	17	1726.2736	101.5400		
M	1	53.5300	53.5300	21.24	P .001
MT	1	7.6697	7.6697	3.04	
MG	1	1.7650	1.7650		
MTG	1	.1398	.1398		
SxM/T&G	17	42.8466	2.5203		
			Arithmetic		
T	1	1.7403	1.7043		
G	1	700.5668	700.5668	6.59	.01 P .025
TG	1	59.5790	59.5790		
S/T&G	17	1807.482i	106.3200		
M	1	157.8832	157.8832	15.07	P .01
MT	1	10.6621	10.6621	1.02	
MG	1	26.1913	26.1913	2.50	P .20
MTG	1	6.9118	6.9118		
SxM/T&G	17	178.1504	10.4790		

Discussion

Failure to find any advantage for the experimental group parallels the findings of Cruickshank, et al. (1961). Three possible explanations were advanced for this failure in the latter study: changes in the composition of the groups, subject attrition, and change in teacher attitude. The first two explanations are not relevant to the present study, but teacher attitude, always an uncontrolled or poorly controlled factor, could have been influential.

Other circumstances could have contributed to the failure to find advantage for the experimental group: groups were small and the period of study was short. Individual student problems unrelated to matters under study could have influenced achievement, or its lack.

An inescapable inference, however, is that isolation in a booth in a classroom is not beneficial, contrary to numerous suggestions in the literature. Perhaps bigger booths would help; auditory isolation might be tried in addition to the visual and social isolation, or even separate small rooms might be utilized to increase isolation. But there is no evidence to suggest that having a brain injured or hyperactive child spend his study time in a separate booth has any effect whatever on his achievement.

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A COMPARISON OF THE SOCIAL DEVELOPMENT OF NORMAL AND RETARDED CHILDREN IN A RURAL COMMUNITY

Edward W. Sontag

One of the prime goals of education, the development of social skills in children, is as important for the retarded child as it is for the normal child. According to Thorpe and Cruze (1956), there is nothing fundamentally wrong with the social and emotional characteristics of mentally retarded young people. If given an opportunity, they make friends readily and retain them well, for they are inclined to be devoted to their associates and appreciative of any praise or attention accorded them. Social and emotional incompetence do not inevitably accompany mental retardation. When incompetence in these areas does exist, it is because the environment in which the retarded individuals find themselves makes demands upon them which cannot be met successfully with their limited intellectual capabilities. A survey of research on personality disorders and characteristics of the mentally retarded made by Herber (1964) revealed that comparatively little experimental work has been done on this subject, despite the generally acknowledged importance of personality factors in problem solving and general adjustment to living. According to Morgan (1956) and Hilgard (1953), the ultimate social age of the mentally retarded is higher than the comparable mental age. Moreover, social development usually continues for a somewhat longer period than does mental growth. Such a stand, of course, implies that mental growth ceases somewhere along the way, and by further inference, that social growth also ceases. This position is not substantiated by recent studies, however.

Numerous studies, such as those reported by Bailer (1961), Cochran and Leland (1963), and Mercer, Butler, and Dingman (1964), have compared the mental ability and social ability of normal and of retarded children. Unfortunately, these studies did not compare retarded and normal children from the same educational setting. Comparison has usually been concerned with children from different schools and even from different communities. A further limitation on the value of such reports is that they are chiefly concerned with children living in large urban centers. Such a preponderance of urban-based studies is understandable when one considers that the rise of the social sciences as a field of study closely parallels the exodus of the American population from rural areas to urban centers. However, since World War II, this population movement has taken a reverse direction, with more and more families establishing residence in suburban or semi-urban areas. The impact of this trent upon the social development of children has only recently begun to be studied by social scientists and educators. In view of the increased attention to and support of special education in rural areas, it would appear that there is some value to a comparison of the social development of normal and retarded children in a rural environment.

The objective of this study was to compare the social development of normal children in a rural environment to that of mentally retarded children of the same general environment. The study was further prompted by the belief that, under ideal circumstances, retardates have the potential to experience normal adjustment equal to that of children and adolescents with considerably higher intellectual capacity.

For the purposes of the present study, four hypotheses were proposed, in null form:

1. No difference in social quotient exists between retarded children and normal children of like chronological age.
2. No difference in social age exists between retarded children and normal children of like chronological age.
3. No difference in social quotient exists between retarded children and normal children of like mental age.
4. No difference in social age exists between retarded children and normal children of like mental age.

In addition, two exploratory questions were investigated:

1. Is there a difference in the social activities of mentally retarded children and normal children of like chronological age?
2. Is there a difference in the social activities of mentally retarded children and normal children of like mental age?

The present study was conducted in the rural village of Springville, New York (population approximately 5,000), located about thirty miles southeast of Buffalo. The majority of the inhabitants of Springville and the surrounding area derive their income from farming and related service occupations.

The subjects were all enrolled in the Griffith Institute and Central School, the second largest geographic school district in New York State. The district comprises an area within a radius of approximately 20 miles of Springville.

Thirty mentally retarded children in special classes, with CA's ranging from 10.3 to 16.2 and MA's from 5.9 to 12.9, were compared with 30 children in regular classes who had CA's identical to those of the retarded group, and with 30 children in regular classes who had identical MA's.

The retarded subjects were drawn from special classes at the intermediate, junior high school, and work study program levels. Only children from the Springville school district were included, although a few children from other school districts do attend the classes through a cooperative arrangement. The subjects in regular classes were randomly selected from the total population of the Springville school system having identical CA's or identical MA's. This selection process necessitated drawing some of the normal subjects from the elementary school and some from the secondary school.

Each child was given the Vineland Social Maturity Scale in order to obtain a social quotient and a social age. Although this scale is essentially designed for use with retarded children, it is a valid scale for use with normal children, and thus fitted the purpose of the study. In addition, in order to determine what social activities the child said he engaged in, each child was given a questionnaire which consisted of 11 items concerned with various after school activities.

After careful study of the Vineland Manual, it was determined that each subject was capable of acting as his own informant on the Vineland Scale. In order to assure uniformity one person, the author, administered and scored the Vineland Scale and the questionnaire to each subject in the study.

After determining means and standard deviations for the scores derived from the Vineland Scale, a t test for significance of difference between means was made. In the case of the social quotients, this posed no problems. However, the differences between social ages required conversion of the ages into months and then reconversion into months and years.

In addition, for purposes of possible comparison, the means and standard deviations of the CA's and MA's of the retarded group and their normal counterparts were determined. It was not deemed necessary to determine the significance of difference in these data.

In no instance, when determining significance of difference between means, did the t test yield a significant value.

In comparing the three groups, it was found that they seemed to reflect average samples of the school population. The CA control group had a mean MA of 13 years and a mean CA of 13.7 years, and the MA control group had a mean MA of 97 years and a mean CA of 9.6 years. Thus, both groups were representative of the general population.

The social quotients for the normal sample were well within the normal range, the social quotient for the retardates was equal to a dull normal, well below the normal groups in the study. The mean social quotient of the MA control group was 100.56, of the CA's, 96.4, and of the retardates, 80.1. Although there seemed to be a large difference in mean scores, the t test did not yield a significant value. Thus, hypotheses numbers one and three, dealing with social quotient, are accepted.

In comparing social ages, the mean social age for the retarded group was 11.63, falling almost exactly half-way between their CA counterparts with 13.41 and their MA matches with 9.8. The t test did not yield a significant value. Therefore, hypotheses numbers two and four, dealing with social age, are also accepted.

Item analysis of the questionnaire proved to be informative. Questions concerned with choice of friends, club membership, spending money, and so on showed little or no difference between social activities of the retardates and those of their chronological and mental age counterparts.

However, in response to question 1,

"What do you usually do after school?

a) play games or other activities by yourself
b) play games or other activities with friends
c) help with work or chores around the house or farm
d) help with work or chores around someone else's house or farm
e) none of the above
f) watch television,"

83 percent of the mentally retarded group reported that they either watched television or helped with work or chores, while only 53 percent of the CA control group and 45 percent of the MA control group reported in this category. Although only 17 percent of the retarded sample engaged in free play activities, 47 percent of the CA control group and 55 percent of the MA control group indicated the same after-school pastimes. In an effort to explain this imbalance, the author has checked into the biographical data of the subjects and found that, with few exceptions, the retardates reside on farms, whereas the normal subjects live in the village of Springville.

On question 5,

"Do you go to church

a) every Sunday
b) almost every Sunday
c) once in a while
d) not too often
e) never,"

59 percent of the retarded group reported that they did not go to church very often or never, while only 22 percent of the CA control group and 36 percent of the MA control group reported this way.

Question 10 inquired into the number of hours of television that was watched each day. Seventy-five percent of the mentally retarded sample responded that they watched television for more than one hour every day compared with only 36 percent of the CA control group and 33 percent of the MA control group.

It would seem from the results of this questionnaire that, for the most part, there is little difference in the social activities of the mentally retarded and their chronological age and mental age counterparts, except in the areas of chores done, church attendance, and hours of television watched per day.

The results of this study indicate that no significant difference exists in the social development of normal and mentally retarded children in the same setting, even though a relatively large difference seems to appear if only mean social quotients are compared. However, if the wide differences possible in the normal IQ range, which are not thought to be significantly different, are considered, then such a finding does not appear so startling. The findings of the present study would seem to lend support to the statement by Thorpe and Cruze (1956) that there is nothing fundamentally wrong with the social and emotional characteristics of mentally retarded young people. Perhaps significant differences would appear between similar groups in an urban setting, but even this is doubtful. If replication of the present study were to support this study, then perhaps there would be reason to explore the possibility of increasing facilities for the education of the retarded in a rural setting—even at the expense of removing them from an urban setting.

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FACILITATION OF MEMORY IN THE RETARDATE

Glenn A. Vergason

It has not always been the goal of persons working in the area of mental retardation to seek to improve the lot of the retarded. In fact, one could conclude that for many years there was an attitude of despair and an acceptance of the permanence of retardation. Much of this attitude has changed in recent years, especially with the introduction of the new concepts of compensatory education and the changeability of intelligence.

This paper looks at memory in the retardate with the idea of improving it by applying learning principles and special instructional techniques. An attempt has been made to extrapolate, from research in mental retardation and relevant research outside the field, those practices which might serve to facilitate memory.

Probably the first question to ask is, what is the memory of the retarded like, especially the educable mentally retarded? Although most lay persons would argue that the memory is inferior, there is research which indicates it may be as good as that of normals, at least under certain conditions (Vergason, 1964; Eisman, 1958; Klausmeier and Check, 1962; Lance, 1965; Cantor and Ryan, 1962). Examples exist in everyday life of retarded individuals who have remembered a name or certain facts for years. Teachers have known only too well that retarded individuals sometimes learn certain four letter words and their connotations without formal instruction. There is indication in the research that once something is learned, it may be more permanent in the retarded than among normals. This is generalized from research on perseveration, position habits, and resistence to extinction (Hodgden and Stevenson, 1958;

Spitz and Blackman, 1959; Lipman and Spitz, 1961; Stevenson and Knight, 1961).

In speculating about the improvement of memory, one of the first considerations should be to determine where learning and memory begin and end. Differences have been found to exist between performance measures and learning, and differences probably exist between performance measures and retention. Teachers have said at times, "Johnny just cannot seem to remember his four table!" The question might better be, "Has he really ever learned it, or does he know it but cannot reproduce it at this moment?" Much research in the past and much behavior of teachers has tended to emphasize practice on tasks followed by immediate testing. To be really valuable, learning must be recalled at a later time. The amount of recall at that time is the important factor. When the author asked teachers of retarded children to give out words from previous spelling tests, the error rate was about 75 percent, although they all had perfect papers initially. Most teachers would feel this means students have forgotten 75 percent of what they originally knew. In two studies (Vergason, 1966 a and b), the author found that the explanation in a similar situation was that the original level of performance had slipped below the threshhold. Johnson and Blake (1960) also demonstrated that the original level of performance can be reestablished with ease. A related finding in this study was that retarded subjects did poorly on recognition measures but performed equally with normal subjects in relearning.

At this time it is not possible to separate the differences in performance and in what is postulated as learning or retention. We must conclude that we can only measure performance, and then infer learning and memory. Since learning and memory are so closely related, they will be handled together in this article except where there is a clear distinction between them.

Present research suggests that, given comparable CA's and MA's, retarded and normal subjects may learn certain materials at the same rate. This is true for meaningful materials but less so as abstractness and complexity increase (Heber, Prehm, Nardi, and Simpson, 1962). In terms of retention, it is suggested that a short term memory deficit is present. The same is true for long term memory where overlearning has not been present.

The author believes educators have not really developed, in teachers of retarded children, a true understanding of the principles of learning and retention which will maximize learning and retention. An attempt will be made to examine certain constructs and their importance to improving retention.

Attention

Bensberg (1958) pretrained some retarded subjects on relevant cues and others on irrelevant cues. Those who learned relevant cues learned the regular material faster than the other group. Similar results were also found by Smith and Means (1961). It thus appears that pretraining aids attention. House and Zeaman (1960), after having demonstrated a discrimination learning deficit in the retardate, placed subjects in a face to face relationship with an experimenter and found no deficit. Thus it appears that motivation can be a strong determiner as far as the retarded are concerned, and that they will work harder for social approval than for mechanical reinforcement.

One study which would ordinarily seem unrelated was done by Corder (1966) on the effects of physical education on intellectual and physical development. Significant increases in intelligence were noted after a program of twenty school days. Interestingly enough, the greatest increase in scores came on the digit span, ordinarily one of the poorest abilities of retardates. Corder notes that the program of relays seemed to improve their ability to pay attention to directions, starting guns, etc. In discussing the problem of attention, Zeaman and House (1963) indicate that the higher the mental age, the greater the number of important cues which the subjects will actually observe and respond to. Those stimuli which have a very low probability of usefulness are discarded. Zeaman and House feel the distraction may be closely tied to ability to ignore irrelevant diversions. Retardates therefore should be exposed to those teaching aids which tend to rivet their attention on the learning task. The use of audiovisual equipment, some teaching machines, and television is a good example. The author (Vergason 1966b) found that using an automated slide projector in a darkened room tended to be very effective in holding attention. Music has been observed to have a similar effect and has been used considerably by some teachers of trainable retardates.

One study by Terrell (1961) also seems relevant. She was studying delayed response as it related to short term memory for 2, 4, 8, and 12 seconds. At times a red warning light appeared with the visual stimulus, and at other times the red warning light continued after the visual stimulus was discontinued. Terrell observed that the prolonged light tended to aid delayed response.

A decrement in ability to delay was observed when the time interval was 12 seconds. Borkowski (1965) and Baumeister, Smith, and Rose (1965) found a similar reduction in short term memory among retardates in the 15 to 20 second periods.

It may well be that attention is related to the short term memory deficit. To be sure, the retardate has difficulty in following directions. A teacher may give Johnny an assignment at her desk only to learn that he has "forgotten" it by the time he gets back to his desk. Although she may lay the blame on attention or attitude, it may actually be that he has difficulty in holding it in mind. Retarded individuals are observed at times to develop crutches to aid in the holding of memory traces. Behavior such as counting on fingers or saying directions over and over with lip movement are examples of this. Teachers can help by giving directions clearly and concisely, by not trying to give too much at once, and by repeating directions frequently.

Mediation

A number of studies indicate that mediation does facilitate learning among retarded subjects. In a sense, mediation may be similar to attention in directing the individual's orientation to stimuli. Berkson and Cantor's (1960) study of mediation showed that normal and retarded subjects learned faster under mediation. Jensen and Rohwer (1963 a and b) carried out two studies using paired associates such as "cat:window." Under one condition, meaningful sentences were supplied, i.e., "The cat sat in the window." The subjects learned better under conditions of mediation. Hermelin and O'Connor (1958) found similar results with trainable retarded subjects who were required to learn six series of paired drawings. Half learned to specify the correct items by rote and the other half were aided by a verbal label. Those who had the verbal label learned the fastest.

The effects of mediation on retarded subjects have been discussed by Griffith and Spitz (1958); Griffith, Spitz, and Lipman (1959); and Hermelin and O'Connor (1958). Likewise, Zeaman, House, and Orlando (1958) found that learning verbal labels for color stimuli facilitated subsequent color form discriminations. Similar findings were also made by Jacobs (1950) and by Cantor and Hottel (1957).

In some studies, the inference is only in terms of learning, but in the study by O'Connor and Hermelin (1959) the presence of meaningful word associations was tested and found effective after three months.

Mediation suggests that teachers can aid retarded individuals by helping them to see the similarities and differences of new material to that which they already know. It suggests that teachers should tie all instruction to elements of materials which the individual already knows. One study suggests some very practical kinds of application.

Wolff (1967) found that overt verbalization facilitated concept attainment. Wolff claims that overt verbalization increases the salience and discriminability of the verbal cue which is needed for concept attainment. One could speculate that it aids in holding the trace and/or attention.

Miller and Selfridge (1950) claim that meaningful material is not easy because it is meaningful, per se, but because it preserves the short range associations that are familiar to the subjects. They also claim that nonsense material can be made to carry these associations. We make an application of this at times with rules which have a jingle, such as, "Thirty days have September, April, June, and November."

This tying together of associations is well demonstrated in a study by Justice (1963). She presented four paragraphs which had been prerecorded to retarded subjects. The selections were of equal difficulty and represented short fictional, long fictional, short informational, and long informational material. The short fictional produced the best comprehension and the long fictional produced more than the short informational material. The characteristic of meaningfulness aided subjects in grasping and consolidating the material being learned. Teachers might consider, for instance, the word "phenylketonuria." If the letters were taken alone, they could never be recalled by most persons: combined into a whole, they produce a form which is readily recognizable to us.

Meaningfulness of Material

It is fairly well accepted that meaningful material is learned more readily than nonmeaningful material. There also is some information to indicate that meaningfulness facilitates memory (Eisman, 1958). In the study by Lance (1965), retarded and normal subjects learned one series of paired associates with high meaningfulness and the other paired associates with low meaningfulness. Both retarded and normal subjects learned best under conditions of high meaningfulness. The material was retained equally by normal and retarded subjects without regard to meaningfulness. Why this occurred is not known. Eisman (1958) employed paired associates of a pictorial nature and found no difference between retarded and normal subjects after seven and thirty days. Vergason (1964) and Ring and Palermo (1961) used similar stimulus materials which were presented mechanically and generally showed long term retention did not differ between retarded and normal subjects.

Klausmeier and Check (1962) studied the retention of meaningful arithmetic problems which had been previously graded to each child's achievement level. The retention between normal, superior, and retarded subjects did not differ after seven weeks.

It is not known whether meaningfulness is as important in retention as in learning. It is known that meaningfulness is a powerful aid in helping the retarded to learn new material. Teachers should seek to combine elements of known meaningful materials with other materials which are being learned.

Overlearning

Overlearning has been present in most of the studies which have been mentioned. Generally overlearning is defined as practice beyond one errorless trial. In studies such as that by Eisman (1958), the use of a criterion requiring three to five correct responses on all associates automatically produced overlearning on many items. This helps to explain the fact that many studies have not shown differences between retarded and normal subjects on retention. Vergason (1964) and Lance (1965) tried to get around this by using the method of adjusted learning in which items were dropped after reaching an appropriate criterion. In essence, they investigated learning to a minimum level and to a level of overlearning. Vergason found that retarded subjects were highly inferior on retention following the minimum level of learning but that they equalled normals on overlearned materials even after thirty days. The minimum level of learning was seen as comparable to many classroom experiences or to incidental learning. Under these conditions their greatest deficit was apparent.

Teachers should be cautioned that overlearning does not necessarily imply rote repetition. Certain amounts of rote repetition with sufficient motivation can be employed within the limits of attention span. One technique which has some promise is that of redundancy. This procedure in essence requires the presentation of material using a number of different approaches. Children who have difficulty with sight vocabulary, for instance, might try first to copy these words, then to learn the meaning of the words, then to write the words in clay, then tell a story using the words, then spell the words, and so on.

The real significance of overlearning seems to be summed up in these remarks by Spicker (1966): "...acquisition of knowledge depends on the complexity of the task to be learned, while retention of knowledge is determined by the amount of overlearning that takes place (p. 92)."

Interference

Interference has been one of the foremost hypotheses to explain forgetting. Supposedly, information that is already known interferes with new information—proactive inhibition (PI)—and interpolated activity between learning and retention measures produces retroactive inhibition (RI). Scheerenberger (1964) studied the effects of proactive and retroactive inhibition on 120 retarded subjects and found the retarded were affected by both PI and RI. Those effects associated with RI were transitory but those associated with PI were more severe as the time interval was lengthened.

House, Smith, and Zeaman (1964) investigated the effects of learning successive lists of paired associates on learning speed and recall. Ten lists of five cards each were learned, and the subjects were measured for recall 24 hours later. Progressive improvement was noted in learning the lists but recall became poorer on trials from the effects of inhibition.

Hermelin and O'Connor (1964) investigated the effects of RI on short term memory. They found that with both normal and retarded subjects, an interpolated list of words interfered with the relearning of the task composed of digits. Borkowski (1965) also found PI caused sever decrements for both normal and retarded subjects. Hawkins and Baumeister (1965) found PI was more severe for the retarded.

One of the problems which teachers will have to face is the dichotomy between learning set and PI. Tizard and Loos (1954) did a study employing the Minnesota Spatial Relations Test. Four boards were used, and the subjects' performance increased with each board. This is in contrast to the study reported earlier where a decrement was noted. The answer may lie in a study like that of Sloan and Berg (1957). They administered seven different series of increasing length from the Word Learning Test. The mean score generally decreased as the length of the list increased, with the exception of the second series. Sloan and Berg postulate that there were more chances for correct response on the second trial than on the first and that the list length was still within the subjects' attention span.

Summary

Pertinent research in learning and retention has been reviewed in an effort to extract possible implications and practices which teachers can employ with the retarded. It is important to remember that through the application of the principles of learning and retention, the memory of retarded subjects can be improved. It can be concluded that retarded individuals have deficiencies in short term memory. Their inability to delay or hold materials in mind proves to be one of their greatest problems. Practices are recommended, such as giving short, concise directions repeated several times, and helping the retarded develop "crutches" or methods of compensation for this deficiency.

Research offers particular hope in the area of long term memory. When materials are meaningful and overlearned, there are indications that retardates learn and retain as well as normals. Meaningfulness of all materials to be learned is of utmost importance in teaching retardates.

Teachers are urged to emphasize not only the learning of a task but, more importantly, to emphasize the retention of the information.

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THE EFFECTS OF A SPECIAL HELP PROGRAM ON MENTALLY RETARDED AND SLOW LEARNING CHILDREN

Lawrence H. Weiner

Special education has been slow in developing the use of federal funds from the Elementary and Secondary Educational Act for education of exceptional children. Much of special education use of these funds has been to institute minimum but previously nonexistent programs. The largest scope of emphasis has been to develop projects oriented toward language arts skills. Large portions of Title I funds have been seized by the general educator for creating projects on a grand scale to aid deprived children.

An evaluation of school populations creating target areas for Title I funds reveals, more often than not, that these same school districts are producing the greatest number of candidates for special classes of one variety or another, and that there is a frequent overlap of children who are educationally deprived and children who are on the rolls of the special educator. One finds that one is dealing with a sociological phenomenon that one is likely to find the greatest number of retarded, slow-learning, and physically handicapped children, as well as those with other exceptionalities, in the poverty areas. It is then assumed that, if these Title I projects are encompassing the disadvantaged child, they are, therefore, servicing the child in need of special education. This may be true, but only to a point. The basic premise of special education is specialized programming. If these projects are applied to a broad base of children, then the exceptional child is not being provided the extra special help he requires. To give language arts stimulation or enrichment to a retarded child, for example, requires something more than the program administered to a child who is deprived only. With this in mind, the goal of the project reported here was to provide the needed service to this overlapping group on a more intensified and efficient basis. In other words, an evaluation was made of the effects of special education upon those already receiving special education.

Purpose

The major purpose of this project to use Title I funds was to provide special education in the form of cultural enrichment to children already attending special class. A second purpose was to intensify speech therapy service for these children by provision of a therapist to service primarily the experimental group. A third purpose was to unify diagnostic services for these children into an in-school team approach, as opposed to the piecemeal work-up often found in public school work.

Procedure

Twenty children were randomly selected from the rolls of elementary level special classes for retarded and slow learners in the town of Barrington, Rhode Island. IQ scores ranged from 65 to 75 for the retarded and 75 to 85 for the slow learners. Achievement level was from two to three grades below age grade placement with age range six to eleven. All children had received initial intellectual evaluations on the Stanford-Binet or Wechsler Intelligence Scale for Children, a medical evaluation, an assessment of achievement and motivation level provided by reports from the teachers, and finally, a qualitative assessment of attitude toward education.

The children were then scheduled for extra special classes during the normal school day in 4 groups of 5 children each according to age and achievement. The group met for 1 1/2 hour periods two to three times weekly for one-half a school year. Thus, a child received from three to four and one-half hours of special help above and beyond the special class. The schedule provided time for preparation before each class and also allowed the teacher to make frequent visits to the regular classroom. Children were transported to a special center which accommodated these classes, as well as a speech therapy room and office space for all special services needed for diagnosis, such as a social worker, psychologists, and a supervisor of special education.

The project special classes were designed to supplement and enrich ongoing activities in the usual special classrooms. Basic subjects such as reading, writing, and arithmetic were sequenced in a project method approach but arranged according to each individual child and his deficiencies or needs. Also, equal emphasis was given to development of motivation and interest in school through highly enjoyable projects as vehicles for the various subjects. Hence, a tailor-made curriculum on an individual basis was designed and adhered to in a semitutorial plan—this can be accomplished in groups of five children as opposed to the ten to twelve found in most special classes. Projects were specifically related to the local community and geared to the readiness level of each child. Progress was recorded by the teacher through qualitative analysis of achievement and motivation. The regular classroom teachers also made evaluations in a similar fashion. The teacher involved in this project reported biweekly to the child's homeroom teacher in order to insure proper direction and coordination of the educative process. Regular parent conferences were also scheduled, as well as quarterly anecdotal reports to both parents and regular teachers.

Speech therapy was arranged as part of the project special class procedure and followup was made by visits to the daily special classroom. The program was largely oriented towards speech and language improvement.

Finally, the diagnostic team functioned in a consultative capacity to both the project and regular class teachers and the family, and they held case conferences regarding each child on a regular basis.

Results

The qualitative analysis of the change in the children's behavior was evaluated by anecdotal records, observations, and reports from both the special class teacher and the project special teacher. These reports were then collated and discussed in case conferences with special services personnel and the teachers concerned so as to provide a better understanding of each child.

The most striking single effect of extra special education given to special class students was the general, across-the-board improvement in all subject matter grades. This improvement was noted to be in excess of usual grade increases with normal special class education. Secondly, all full time, special class teachers noticed the development of divergent and creative interest patterns which was directly attributable to the ability of small groups to explore more widely high interest matters related to the usual special education program. In other words, it was felt by all teachers that motivation to learn was greatly enhanced by extra stimulation outside the usual special class curricular material.

It was also significant that the removal of children from their classes for an hour and one-half, three times weekly did not cause normal educational progress to suffer. Rather, because of increased motivation, larger gains were made despite the time loss in class. More efficient use of time was learned, as well as greater development of basic learning skills.

Finally, in regard to actual classroom behavior, differences were noted in personality development of the children. The children became more gregarious and lost many basic fears and insecurities related to frustration in learning. This was accomplished by letting the student develop his own vehicle for learning and move the vehicle at a rate suitable to his developmental level. Anecdotal records provided interesting proof of the occurrence. A child who may have voiced disinterest in a subject because reading skills were involved began to show less apprehension related to this because there was a desire to pursue high interest material. The one to five teacher/pupil ratio had much to do with this aspect.

Records which were maintained on frequency of attendance at regularly scheduled parent conferences revealed greater parent involvement as evidenced by a larger percentage of parental attendance at these conferences as compared to attendance at regular school conferences. Too often, the parents of special class children , who need frequent support from the school, are the least likely to seek this help. The concept of additional or extra special teaching aroused sufficient interest in the homes of these children to produce a greater desire on the part of the parents to take an active interest in their child's education.

The speech and language program developed in conjunction with the classes had two general effects: (a) more facility and less insecurity with language, both oral and written, was noticed as a result of intensified speech work, and (b) speech production improved because of the increased amount of time devoted to the activity. Speech therapy in public schools often bypasses the special class child, since it is felt improvement will be limited. This highly concentrated approach tended to show that long-term gains can be made in a short but frequent therapeutic regimen.

Finally, the coordination of all special services into a unified diagnostic team reflected greater service for both the regular teacher and the project teacher, in addition to supplying a more comprehensive understanding of each child.

The value of the program is evidenced by its wide scope effectiveness in several areas of development of retarded and slow learning children and in the more rapid gains made by such intensified or concentrated service. Although the per pupil cost appears high on the surface, it can be viewed as relatively inexpensive from two points: (a) if these children are not stimulated to productivity, the cost for a community may extend for many years beyond school through welfare, etc.; and (b) children may be rotated throughout the year whenever improvement is sufficient to warrant replacement by another child. Thus, although twenty children are serviced, it may not be the same twenty at any given time.

The chief weakness of programs such as this is the difficulty in quantifying the results. Tutorially oriented methods of instruction often depend on teacher effectiveness in noting the quality of improvement through subjective means. Perhaps the results of this pilot project indicate a need for some re-emphasis on the quality rather than the quantity of education for retarded and slow learning children.

Finally, caution should be exercised in developing materials and methods that are appropriate to the children and community being served. Borrowed curricular materials may not be suitable, as educational needs within each school community differ.

A PILOT STUDY OF THE CANT OF THE NEGRO DISADVANTAGED STUDENT IN FOUR SECONDARY SCHOOLS FOR SOCIALLY MALADJUSTED AND EMOTIONALLY DISTURBED

Herbert L. Foster

Reports of problems related to educating the "disadvantaged" child have included: 1) the child's milieu (Harrington, 1962), 2) pupil mobility and turnover (Rader, 1963, Conant, 1961, Goldberg, 1963, and Sexton, 1964), 3) high reacher turnover (Sheldon and Glazier, 1965), 4) discrepancies between teacher and student values (Conant, 1961), and 5) teacher-student communication.

The disadvantaged child enters the middle class oriented school with a verbal handicap that increases as he advances in grade or remains in school (Bernstein, 1958; Cohn, 1959; Clark, 1963; Calitri, 1964; Riessman, 1962). Supposedly, this verbal communicative skill handicap prevents more than any other factor this child's success in school (Boynham, 1963; Cutts, 1962; Passow, 1963; Ware, 1964). Apparently, however, this same child communicates with facility in his home, with his friends, and in his neighborhood (Cohn, 1959; Newton, 1964; Riessman, 1962). This paper reports a pilot study of the disadvantaged and socially maladjusted child's ability to communicate with his peers his functional peer language.

The Literature

A review of the literature concerning the language of the disadvantaged reveals studies on language categorization, syntax, verbal output, and sentence structure. However, little attention appears to have been paid to the disadvantaged child's slang, argot, lingo, or cant, other than to note its existence. It is speculative whether this lack of research results from the preponderance of studies related to the preschool or elementary child (who does not know this language), or from researchers' lack of experience in working with this child and therefore, his lack of awareness of the child's lexicon.

However, the literature pertaining to cant usage suggests the following: 1) cant reflects a group's attitudes and social structures, 2) subcultures develop a cant for selectivity and maintainance of privacy, 3) to some extent, cant definitions and terms change and vary by area, neighborhood, or city, 4) all levels of society, occupations, and professions develop and use some form of cant, 5) in some cases, cant may be the only communicative language known to an individual, 6) in certain subcultural milieux, cant usage is acceptable and is possibly the only mode of verbal communication, and 7) with time, some cant words become acceptable English.

Objectives of Study

Hypotheses

1. There is a particular language or cant which the disadvantaged and socially maladjusted school youngster uses that is different from standard English.
2. In some cases, the words and their meanings will differ from school to school and borough to borough.
3. Many of the words in this cant a) have dual meanings, b) have meanings that either change or remain, and c) remain while new words are born.

The purpose of the study is to disprove or substantiate the hypotheses. If the hypotheses are validated, cant lists and their meanings will be compiled.

Cant: The American College Distionary (1960) defines cant as the "words, phrases, etc. peculiar to a particular class, party, profession . . ." Flexner (1960) reports that "cant is the conversational, familiar idiom used and generally understood only by members of a specific occupation, trade, interest group, or other subculture."

The New York City "600" schools are schools within the Bureau for the Education of Socially Maladjusted Children, NYC Board of Education. The "600" school youngster meets criteria of being disadvantaged as suggested by The Educational Policies Commission, NEA (1962), Riessman (1962), and Kaplan (1963).

The 44 Negro male subjects were from two senior and two junior high "600" schools in Brooklyn and Manhattan. They were chosen to participate in the study by the principals of their schools. The junior high subjects ranged in age from 14 to 16. The senior high boys ranged in age from 14 1/2 to 16. All subjects resided within the borough in which their school was located. In each school, the principal chose 10 to 12 boys from his school for the study.

Materials

A word list was assembled from the following: (a) cant words known to the authors; (b) "A glossary of street gang argot" (Salisbury, 1958); (c) the October 16, 1964, news release of the NYC Youth Board, "Street Jargon Has a Flavor All Its Own;" (d) homosexual terms (Berkowitz and Rothman, 1960); and (e) the word list "Americana" (*Time*, 1963).

This word list was pretested with two groups in two "600" schools whereupon words were added. A 236 word master list resulted and was subsequently used in each of the four testing sessions.

Procedure for Collecting and Reporting Data

In each "600" school, a room was provided for the testing. The subjects were seated around a table with the author. Cake, cookies, and soda were provided. Each interview lasted from an hour to an hour and a half and was taped.

A word and its definition or definitions were accepted when, in the opinion of the author, there appeared to be unanimity among the subjects as to validity and meaning. The master word list elicited additional words and definitions. These additional words provided a "secondary word list."

Words and definitions were listed according to the number of schools that agreed upon the definition, i.e., common words (all four schools agreed), words with three school recognition, or words with two school recognition.

Report of Findings

Upon examination, the data tend to substantiate the three hypotheses. Some words were defined according to borough, while still others were defined by crossing boroughs or schools.

Interestingly, sociological implications were observed through word definitions. Previous reports (Talese, 1964; Clark, 1965) suggest a lessening of street gang fighting and an increase in drug addiction. This was reflected when the high school student, more aware of the former gang fights, suggested certain definitions, and the younger junior high student provided a different definition for the same word. For example:

a Ditty bop: the high school definition was hoodlum, or gang fighter; the junior high definition was old-time gang word, or word not used anymore.

of skin: the high school definition was give me some skin (a method of shaking hands whereby one person slaps the palm of his hand against the palm of the other person); the junior high definition was give me some skin; shooting dope into the arm.

This list is a partial compilation of all the word lists:

ace boon coon: best friend.
a.t.: (attitude) get mad.
bad: good; tough; courage.
bo-daggart: lesbian.
boss: nice.
breeze: to leave; leaving.
catching the wind: leaving; running away.
deal: to fight.
deep: nice.
doing the bird: leaving.
down: getting ready to fight.
D.T.K.: down to kill.
dyno: nice; the best.
everything is everything: nice; everything is O.K.
fish: ugly girl.
fly: nice; good.
fox: a nice girl.
gig: a party.
grind: a slow dance; dancing close.
grit: to eat.
heart: courage.
I'm nice: feeling high.
jive stud: a person who plays too much; a homosexual.
johnson: penis; reefer.
kicks: shoes.
knot: person's head.
L.A.M.F.: like a mother-f_______.
old lady: girl friend.
O.T.K.: out to kill.
pato: (duck in Spanish) homosexual.
put in the wind: to run.
rank: to insult someone (with a true statement).
scab: ugly girl.
shades: sun glasses.
short: car.
sound: to make fun of someone (with a false statement).
stone: the best.
stone fox: nice looking girl.
swipe: penis.
take it light: take it easy.
tight: very close friends (now means in trouble).
tippin: leaving; walking away.
wolf: to make fun of someone.

Discussion and Conclusion

This author has used and uses cant professionally in binding and easing student-teacher relationships, as well as student-peer relationships, in the improvement of student-teacher articulation, and as curriculum materials. However, the use of cant, like outstanding teaching, depends upon the teacher relating his methods to his personality.

In addition, it may be possible to use cant as a first step in teaching standard English to the secondary school child who is retarded in reading, for children learn to read more easily those words from their oral vocabulary than words with which they are not familiar. However, mastery of standard English is most often a required vehicle for educational, economic, and social upward mobility.

Furthermore, observations have often shown that cant (a) may be the only way this child can, at times, express himself, and (b) is the language he reverts to in a crisis or anxiety provoking situation.

Finally, this pilot study substantiates that there is a cant used by the disadvantaged, socially maladjusted child that is different from standard English. Further research is suggested as desirable and vital.

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A METHOD EMPHASIZING SENSORY-PERCEPTUAL AND LANGUAGE TRAINING FOR THE YOUNG PRESCHOOLER

Freeman McConnell

Programs for preschool culturally disadvantaged children have been grouped into three main categories by Getzels (1965). The first is the program based on the assumption that the culturally disadvantaged child and the middle class child are different in degree only, not in kind, and thus, a program which is good for one will also be good for the other. The aim of such a program is to provide supplementary, or enrichment, experience. In the second type of program, it is assumed that what the disadvantaged child mainly lacks is familiarity with school related objects and activities, and thus, the aim is to provide academic preparatory experiences. The premise of the third type of program is that the disadvantaged child differs from the middle class child with regard to his self concept, value system, and language and perceptual processes. The aim in this type of program is to provide compensatory experience sufficient to modify environmental effects.

The Bill Wilkerson Hearing and Speech Center in Nashville is in the second year of a project which reflects the philosophy of the third type of program. It is assumed that the culturally disadvantaged preschooler has not had an opportunity to develop an appropriate value system, a proper self concept, or adequate language and perceptual processes.

In this project, we have taken the position that it is the language deficit which constitutes the greatest hazard to later school learning and subsequent life achievement. The lags produced in the early preschool years create, furthermore, what has been called a cumulative deficit which results in learning disabilities too marked to overcome in the ordinary school classroom. Thus, we believe it is necessary to concentrate our efforts on the very young child in order to combat the lag in the crucial period of language development that should be occurring in the years from two and one-half to four and one-half years.

In embarking on this project, we were motivated by an idea that use of personnel skilled in the techniques applied to teaching language handicapped children should facilitate the teaching of the culturally disadvantaged child, even though he appears to have normal speech and hearing. Evidence suggests that language retardation is a major problem area for such children. Thus, the intent of the project was to demonstrate that methods and materials known to be effective with deaf, hard of hearing, cerebral palsied, and aphasoid children might also be applied to the child with an environmental language handicap rather than an organic one.

The objective of the project then is to provide an organized, structured, and intensive perceptual and language stimulation program directed at the prevention of learning problems in school, failure to achieve, and subsequent school drop-out. In an attempt to counteract, as much as possible, the inhibiting effects of cultural deprivation on language learning during the important, formative, preschool years, we have placed major emphasis on early instruction, beginning with the three year old.

Method

Daily instruction is provided to 121 Negro children ranging in age from two years, five months, to five years, eleven months. These children, who constitute the experimental group, are enrolled in two separate community day care centers located in the lowest socioeconomic areas of the city of Nashville. The control group is comprised of 40 children enrolled in another, but similar, day care center. The children are divided by age into nursery and kindergarten groups, both of which are further subdivided into groups of six or seven for the instructional program presented five days a week on a half-day basis.

Four particular phases characterize the curriculum aspects of this program, as shown in Table 1. The entire group participates in the opening exercises, while the language and sensory perceptual training units are presented individually to the small groups.

Table 1

A Typical Daily Program

Opening	Language	Sensory-Perceptual Training	Music and Story Hour
Flag Salute Calendar News Weather News Conversation Time	(Presented on a Unit basis)	(Barry, Frostig, Kephart, Palk Methodology)	Original stories, Traditional stories, Poems, Finger plays, Rhythmic activities
Time Allotted: 15 minutes	Time Allotted: 15-20 minutes	Time Allotted: 15-20 minutes	Time Allotted: 15-20 minutes

The units comprising the language series include:

(a) The Child (Body Concept) and His Family,
(b) The Home,
(c) Clothing,
(d) Food,
(e) Toys,
(f) Science,
(g) Transportation,
(h) Farm Animals,
(i) Community Helpers, and
(j) Zoo Animals.

As part of the language instruction, an aid to grammar and syntax is presented by means of the Fitzgerald Key headings (who, what, where, how, why, what color, and how many). Printed forms are normally accompanied by pictorially presented concepts. The Peabody Language Development Kit, Levels P and 1 as well as teacher-made materials, are used.

During the first year, emphasis was placed on the receptive aspects of language and attempts to increase listening skills and attention span. When, at the end of the year, it was found that the children were still defective in expressive aspects of language, plans for the second year were modified. In the second year some of the procedures suggested by Bereiter and Engelmann to facilitate better grammatical expression have been carried out. Although testing will not occur until the end of the year, this innovation appears to be yielding very good results.

The sensory perceptual training emphasizes the fullest development of all sensory channels. Particular emphasis is placed on developing concepts of size, color, number, form, and position. A series of activities graded in complexity for training of the visual, tactile, and auditory senses are provided.

The music and story hour is a period in which a variety of activities are presented for visual and auditory improvement. An original series, the P. Mooney Stories, has been developed at the center especially for use in this program. P. Mooney is an imaginary character who solves life's everyday problems by dipping into the P. Mooney bag; when presented with attractively colored posters, the stories seem to appeal highly to the imagination and fantasy of the young child. Poems, finger plays, songs, dramatizations are also presented during this part of the program.

Proponents of the traditional preschool philosophy contend that a program of this nature is too structured for the child of this age. As Bereiter (1966) has pointed out, however, what these proponents overlook is that the traditional nursery school is uniquely middle class and designed to provide what middle class children need to round out their already rich diets of experience. Although the good nursery school may help the upper middle class child develop his intellectual abilities, he has these before he enters, and he is not hampered intellectually if he does not attend nursery school. To the extent that environment has anything to do with the superior academic abilities of the child from such a background, the crucial factors, then, must lie in the complex of verbalism, parental stimulation, achievement motivation, and orientation towards the future. These aspects characterize the stereotyped environment of the upper middle class home, not the nursery school. For the disadvantaged child, a sharp departure from the traditional nursery school is mandatory if he is to compete in society.

Results

Prior to the instruction period, the 39 children included in the first year experimental group were given a battery of tests adapted and designed for assessing overall language and learning capacity. These tests were then repeated at the end of the school year. Major areas assessed were language, memory and attention, visual-perceptual motor capacity, social maturity, speech, and hearing. Although all of these data are not yet analyzed, Table 2 presents a comparison of the experimental and control groups at the beginning of the first year of the project.

Table 2

Summary of Data on Vocabulary and Intelligence
Levels of Culturally Deprived Children

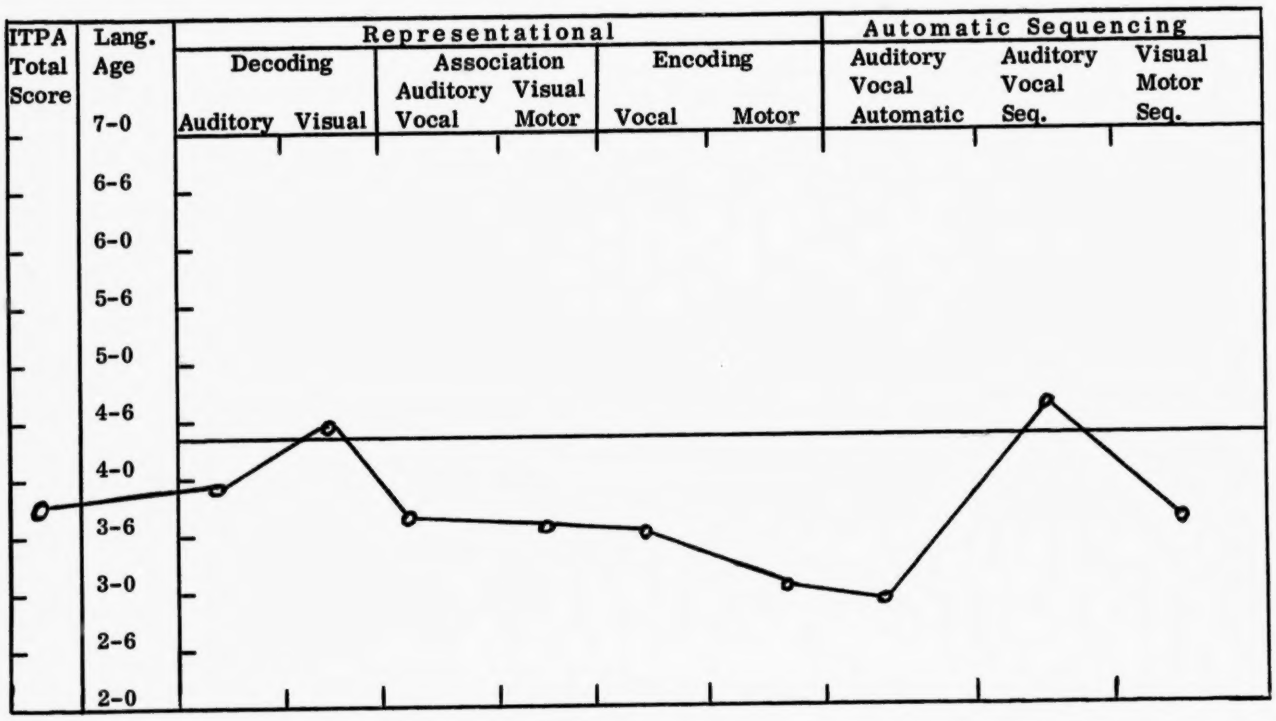
	N	CA	PPVT IQ	Binet IQ
Experimental Group	32	3.9	77.5	91.3
Control Group	21	4.4	74.7	94.4
Combined Preschool	53	4.2	76.4	92.6

The mean chronological age for 32 children in the experimental group was 3.9 as compared to 4.4 years for 21 children in the control group. Their Binet IQ scores were comparable. In contrast to results on the Binet, which may be said to require a more global language response, with language usage being closer to that representing the child's everyday knowledge, the Peabody Picture Vocabulary Test (PPVT) results indicated markedly lower intellectual performance. The PPVT, which measures vocabulary development as a function of intellect, requires specific word knowledge. These results indicated the presence of language retardation in these children in relation to their chronological age and to their intelligence potential. The actual number of mental age months by which their performance on the Binet Comprehension Items computed separately was superior to the PPVT was 9.4 months, a rather significant difference for children at this age level.

A more detailed study of language functioning was carried out by use of the Illinois Test of Psycholinguistic Abilities. The results based on the performance of 39 children, are presented in Figure 1.

Figure 1

Mean Performance Levels on Illinois Test of Psycholinguistic Abilities for 39 Culturally Disadvantaged Preschool Children



The mean language age of the group was seven months below the mean chronological age. Two-thirds of the ITPA subtests showed retardation of eight months or more. The first two ITPA subtests, auditory and visual decoding, deal with channels of input. An examination of the performance on these two subtests showed superiority of performance on visual decoding as contrasted to auditory decoding. Associational ability is reflected in the auditory vocal association and visual motor association subtests. These subtests showed general reduction for both visual and auditory tasks. Expressive functioning at both the vocal and gestural level, as measured by the encoding subtests, also exhibited marked reduction. It is interesting to note that nonverbal expressive ability, gestural or motor encoding, showed even greater reduction than vocal expressive ability. The poorest level of functioning was reached on the auditory vocal automatic subtest, which assessed their use of correct grammar or syntax. This finding, which is a common one with culturally disadvantaged children, no doubt reflects the meagerness and inarticulateness of their linguistic environment. The auditory vocal sequential and visual motor sequential subtests are tests of immediate memory, the former being a digit memory test and the latter being a test of immediate reproduction of a series of geometric forms. Auditory memory for immediate recall of digits is one of the two subtests in which the group performed at or above age level; the other was the visual decoding subtest.

We have just noted the superiority of visual over auditory capacities on the decoding subtests of the ITPA. In pursuit of this trend, we undertook an analysis of data from Binet tests and from subtests derived from the Nebraska Test of Learning Aptitude and the Gesell and Cattell developmental schedules, which showed equivalent superiority of visual versus auditory abilities. Specifically, each child was compared with himself with reference to his performance on tasks of attention, discrimination, and memory for visual material as contrasted to the same tasks for auditory material. When these differences were analyzed, a developmental lag of six months in auditory functioning for the group was obtained. When one recalls that this lag is present in a group with a chronological age of less than four years, its significance is heightened. We are faced with the fact that the sensory capacities for learning in culturally disadvantaged children appear not to be developing at equivalent rates. The significance of a lag in auditory development is apparent when we consider the important role that audition plays in school performance.

A comparison of the first-year pre- and posttest scores on the Binet and Peabody Picture Vocabulary tests are shown in Table 3.

Table 3

Summary of Intelligence Levels of Culturally Disadvantaged Children
Before and After 9 Months of Language and Sensory-Perceptual Training

	Binet			PPVT		
	Pretraining	Posttraining	Difference	Pretraining	Posttraining	Diff.
Experimental Group	87.4	107.8	+20.4	74.5	91.2	+16.7
Control Group	98.3	96.1	- 2.2	70.5	86.2	+15.7
Difference		22.6				1.0

The experimental group showed an increase of 20.4 IQ points in Binet performance for the experimental group contrasted with a change of -2.2 IQ points for the control group. Both groups showed an equivalent increase in receptive vocabulary comprehension as measured by the PPVT, but the particular type of ability required by the PPVT is still significantly below performance on the Binet. While the traditional nursery day-care program was apparently equivalently stimulating in terms of the development of vocabulary comprehension, the language and perceptual intervention program for the experimental group must be considered responsible for the significant and demonstrable increase in measured intelligence.

The finding that the culturally deprived child is more visually oriented toward learning than auditorially poses a question as to whether auditory comprehension difficulties may be complicated by inadequate auditory discrimination and auditory perceptual skills. Recent reports by Deutsch (1964) and Clark and Richards (1967) have suggested this. These children are reported to be less attentive to auditory stimulation, to show difficulty in profiting from auditory experience, and to be retarded in overall language development as well as in verbally related skills. The hypothesis is that lack of meaningful auditory experience and the random, undifferentiated barrages of sound in the culturally deprived environment may not only preclude adequate vocabulary and grammatical knowledge, but may also produce secondary consequences of altering the development of basic auditory perceptual skills.

In an effort to investigate this question we are currently engaged in a study which compares three groups of children on three types of auditory skills. Three particular auditory skills, auditory blending, word memory, and speech sound discrimination were tested. The auditory blending task requires the child to listen to the successive phoneme components in a word, such as c - a - t, and to synthesize these into the whole word in his response. The word memory test involves recall of one word from a set of three, presented first in entirety, then with one word missing which the child must recall and repeat. Speech sound discrimination was a test with Goldman's modifications of the Boston University Speech Sound Discrimination Test which is presented in four subtests of increasingly difficult listening situations. Thus, these tests required skills of perception, phonemic discrimination, auditory memory, and phonemic synthesis. The experimental group was comprised of culturally disadvantaged Negro children, while two groups of middle class children, one white and one Negro group, were the control groups (15 in each). The comparative performance of the three groups on the three tests are shown in Table 4.

Table 4

Comparison of a Culturally Disadvantaged Group of Preschool Children with Two Culturally Advantaged Groups on Three Tests of Auditory Abilities

	Word Memory Mean (and SD)	Auditory Blending Mean (and SD)	Speech Sound Discrimination Mean (and SD)
Culturally Disadvantaged - Negro (N=15)	4.8 (3.7)	4.6 (1.7)	65.5 (11.9)
Culturally Advantaged - White (N=15)	8.7* (2.4)	7.4 (1.8)	78.7* (10.2)
Culturally Advantaged - Negro (N=15)	8.0* (2.4)	6.0 (1.8)	75.7* (13.7)

* All observed differences between groups with the exception of culturally advantaged white and culturally advantaged Negro on Word Memory and Speech Sound Discrimination were statistically significant at .05.

These results suggest that the environmental factor is the major etiologic factor, rather than ethnic or racial, since in only one instance (auditory blending test) was the difference between the two Negro groups not statistically significant. Thus, the inference may be drawn that the auditory listening skills of the culturally deprived child are indeed less adequate when compared to his middle class peers.

Summary

In summary, it is our belief that language and sensory-perceptual training programs such as this one, implemented in the critical preschool years, may be expected to combat in an effective way the sociologically induced mental retardation of such children. Both the receptive and expressive aspects of language functioning need to be stimulated, increased, and improved for them. When one considers that in the traditional nursery program the child has very little opportunity for direct conversation with the teacher, we can appreciate the need for the small group instruction in which exchange of conversation and individual attention on structure and syntax of language is actually emphasized by direct teaching methods. It has also been noted that auditory abilities were poorer than visual on several kinds of assessment. This difference, which has been noted by other investigators, has interesting ramifications. One may indeed conjecture that language and vocabulary functioning will be reduced when auditory functioning is reduced, but what factors might be operating to produce such an auditory lag when hearing itself is normal? It is quite probable that most of these children come from homes in which the sound environment is extremely random and unstructured. For example, if a youngster has been living in a three-room home in a family of seven or eight people, it is quite probable that the noise level in the home would be quite high, that there would be many extraneous sounds which the child would gradually learn to ignore. He thus blocks out auditory patterns from the first days of life, as it were, because they are so profuse he cannot handle them selectively at this stage in his auditory development. This blocking of auditory stimulation would thence directly affect the child's transmission of sensory stimuli by ear which is the chief method by which the child learns language.

A problem which is yet unsolved is whether the basic auditory perceptual skills learned by most children in the first years of life, if unlearned because of the particular environmental milieu, as in cultural deprivation, would directly contribute to the child's lack of facility in language and subsequent poor educational achievement. As our project progresses, we hope to continue study of these and the many other different facets which combine to present the problem of sociologically induced mental retardation in our society and to suggest ways of remediation.

TRAINING SUBPROFESSIONALS FOR CLASSROOM WORK WITH DISADVANTAGED CHILDREN

Carol L. Rubow

Under the support and direction of the Demonstration and Research Center in Early Education, located at George Peabody College for Teachers in Nashville, Tennessee, the writer has been privileged to conduct a research study within the Child Development Program of the Coahoma Opportunities Incorporated Community Action Program located in Clarksdale, Mississippi. The research has involved testing the effectiveness of three different methods of training teacher aides who are working in preschools which are part of the federally supported Child Development Program.

Clarksdale, Mississippi, is located about 75 miles fouth of Memphis, Tennessee, on the Mississippi Delta in the northwest part of the state. Poverty is more the rule than the exception in this county. The vast majority of the county population is supported in some way by the land. The fifteen owners of large cotton plantations in this area provide much of the occupational opportunities. The average annual family income for this area is about $2100, while the average annual individual income is $818. The average annual individual income for a Negro is $488. Sixty-two percent of the Coahoma County population is Negro.

The Problem

The Child Development Program in this county includes ten Head Start centers, located primarily in an abandoned county school building which has been renovated. Most of these centers house four or more groups of twenty children. The staffing pattern for these classes includes one teacher and two teacher aides for every group of twenty children. Each of the centers has a director responsible for the administration of the center. The Center Director is a college graduate who is judged to have administrative ability. The teachers in these centers have at least one year of college education plus some experience with children; the average amount of education completed by the teacher serving in the research group is 14 years or sophomore year in college. The teacher is responsible for the day's activities for the children and works with the aides in carrying out the educational program for the children.

The aides hired for work in the centers are residents of the community and, for the most part, have had some high school education. The average education completed by the aides is 10.6 years. In actual practice the aides serve in both an instructional and a custodial capacity. The educational background of the 32 aides serving in the research group ranges between 6th and 12th grade. The aides perform such tasks as reading stories to children, working with small groups of children in directed activities, supervising free play and recess time, helping in the kitchen, preparing materials, and in general working closely with the teacher in conducting the day's activities.

For the most part, the enthusiasm of the aides for their work is very real and genuine. It is true that the aides have a job which pays more than they could receive working in the cotton fields or as a maid in a home, but their motivation for working in this program is based on more than a financial consideration. These aides have a real concern for the future of these children. How can the cycle of poverty be broken for these children? Over half of the aides come from homes very similar to the homes of the children in the centers. Although they don't have the sophistication one might ideally want for workers with young children, it is possible for them to make a real contribution to these children and to their future opportunities in life. The job of the aide, then, makes it possible for the poor to help the poor.

What are some of the problems we face as we work with the aides in the Child Development Centers? For the most part, the aides' understanding of the real purposes of a Child Development Center and its relation to the growth and development of children is quite limited. This is true, to some degree, among the teachers as well as among the aides. They can see the physical advantages of the center, such as the child's being given food to eat, his learning of safety and health routines, and his being afforded opportunities to play with toys and equipment which he doesn't have in his home. These things they can see, but their understanding of the purposes of the Child Development Center is almost entirely limited to this. The fact that all of the activities conducted in the center have educational value for children is not a part of their understanding. This understanding that all of the activities of the children serve as learning opportunities for the children, forms one of the main objectives of the training program for these aides.

What may be the most effective method to develop this understanding for the aides? What method of training will help the aides to work more effectively with the teacher to provide an environment for optimum learning on the part of the children? It is hypothesized in this study that an inservice training program for these aides will significantly increase their effectiveness as they work with preschool children in the classroom. It is further hypothesized that one method of training will have a greater positive effect on the aides' work in the classroom than other methods of training.

Selection

This research study is designed to test three training methods to be used with teacher aides working in preschool classrooms. The study involves 32 teacher aides randomly selected from a population of 88 aides. To select the 32 aides, eight Child Development Centers were randomly selected from the ten centers in the program. Two teachers from each of these eight centers were then randomly selected. The two teacher aides working under the direction of each of the sixteen teachers, randomly selected, then became part of the sample. There were seven exceptions to this selection procedure. Because of the nature of the instruments to be used for evaluating the aides, it was necessary for the aides to have at least a fifth grade reading level. The Gates Survey Reading Test was given to all 88 aides working in the centers, and it was discovered that nine of the originally selected aides scored below the fifth grade level on the test. The reading level scores for all the aides and for the research sample ranged from 2.2, to the ceiling for the test, 11.8, with a mean reading level of 6.2 years. The Durrell Sullivan Reading Capacity Test was then given to the aides to measure whether these aides might be able to understand fifth grade level material that was read to them. Seven of the originally selected aides were not able to meet this level of ability. These seven aides were kept in a treatment group, but the data collected from them were considered invalid. Each of these aides was replaced by an aide randomly selected from aides scoring at a fifth grade level or above on the Gates Reading Test, working in the same center.

The 16 teacher aide teams were then randomly assigned to one of three treatment groups or to the control group. Each training method was used with eight teacher aides and conducted once a week for twelve weeks. The training program went into operation the week of February 7 and concluded the last week in April.

Method

The three training methods include a lecture discussion method, a participation method, and an eclectic method. The lecture discussion method includes the use of lectures, discussions, and audiovisual aides in an adult education classroom setting. Meetings with this group of aides are held for two hours each Tuesday afternoon. Topics for the lecture discussion sessions include:

1. The Child DevelopmentCenter and The Role of the Aide
2. Understanding Child Development and The Needs of Young Children
3. The Effects of Poverty on the Child
4. The Environment for the Learning of Young Children
5. Developing Attitudes Necessary for Learning
6. Developing Specific Abilities for Achievement in Young Children
7. Materials and Activities for Learning in the Classroom
8. Science in the Classroom
9. Mathematics for Young Children
10. Social Studies for Young Children
11. Reading and Literature for Young Children
12. Art and Music for Young Children

The participation method is conducted within the preschool classroom setting. The speaker participates with the children and the aides in directing, supervising, and observing classroom activities. Following an hour's participation in the classroom, the experimenter meets with the aides to:

1. Discuss with the aides the activities which took place during the hour period.
2. Evaluate with the aides what took place during the hour period.
3. Plan with the aides for the next day, following through and building on the present day's activities.

A long range goal of this method is to give the aides the background to participate with the teacher in planning for a longer period of time. Hopefully, the aides will eventually be able to plan with the teachers ahead for a few days at a time. All of this planning is done under the supervision of the teacher. The teacher is informed of the general content of the evaluation sessions and works with the aide in setting up future activities.

From 8:00 to 10:00 a.m. the experimenter works with four aides in one center. From 11:00 to 2:00 the experimenter works with another four aides in one center. Each week the meeting times are reversed so that the aides will be worked with at alternate times of the school day. The extra hour during the second half of the morning is due to the lunch hour, during which time the writer eats with the children and aides. The evaluation session is held after the lunch hour. The eclectic method includes a combination of the lecture discussion and the participation methods. In the morning the experimenter works with the eight aides in the classroom. In the afternoon, this group of eight aides joins the lecture discussion groups of aides for training. The total amount of time spent in training each week by the experimenter is two days. The control group receives no organized training.

Instruments

Perhaps the most difficult part of the entire research study was the development of instruments to measure the growth of the aides. With the help of Mr. Joseph Stevens, a doctoral student in psychology at George Peabody College for Teachers, three measuring instruments were developed. These three evaluation instruments will be used to measure significant change, over a 12 week period, between treatment groups. A semantic differential instrument, an objective test of knowledge, and a rater observation scale will be the three instruments used for evaluation.

The semantic differential used in this study is an adaptation of the Osgood Semantic Differential. This instrument provides opportunity for getting a measure of attitude toward eight concepts: independent behavior of children, curiosity behavior, reflective behavior, impulsive behavior, persistent behavior, school activities, the child, and the self. Osgood, in the development of the semantic differential developed a large pool of adjectives that were used as polar ends of a scale. From this pool of adjectives, adjective pairs for this study were selected. Adjective pairs include excited-calm, strong-weak, and pretty-ugly. Each of the eight concepts are measured through the use of 12 adjective pairs. The aide checks the strength of each adjective pair as it relates to a statement concerning one of the above concepts. A seven point scale is used for each adjective pair. The adjective pool developed by Osgood was found, by factor analytic means to load on three independent factors. The three independent factors were named "evaluative", "potency", and "activity". The evaluative factor refers to the goodness of a concept such as "pretty-ugly." The activity factor is interpreted as how dynamic or static a concept is conceived to be such as "fast-slow." The potency factor is interpreted as the strength of a concept such as "strong-weak." Data from the semantic differential will be put into a type six Lindquist analysis of variance mixed design. The three dimensions used in this design will be (a) pre- and posttests, (b) scale dimensions (evaluative, potency, and activity), and (c) treatment groups. Each concept will be analyzed separately so that there will be nine independent analyses by concept.

Objective test. The second instrument used in the study is an objective test which contains 48 questions based on knowledge contained in the 12 lecture discussion sessions. (Four questions are taken from each of the 12 lectures.) This test has an inter-item reliability coefficient of .93 as measured by the Spearman Brown Prophecy Formula. This test will be given as a posttest to measure gain in factual knowledge based on the lecture discussion topics. A simple analysis of variance will be used to measure significant change between groups.

Rater Observation Scale. The third instrument used in the study is a rater observation scale which was developed to get a measure of the amount and kind of interaction between the aide and the children. Four categories are observed using this scale —behavioral reinforcement, verbal interaction, teacher focus, and child response. A trained observer notes the performance of the aide for two 10-minute intervals. These intervals include observations of a large group activity, defined as an activity involving less than half of the children. Meal time, recess time, and free play time are excluded as observations to gain similarity of observations over time. Each of the categories on the instrument are observed for a five second interval of time followed by a five second interval of rest. A total of twenty observations of each category are included in a ten minute 30 second observation period. In order to allow the experimenter to get a profile on the growth of each of the aides, this instrument will be used as a pretest measure and will be used again after four weeks, after eight weeks, and after twelve weeks of treatment. Two observers have been trained to use this instrument. Using an estimate of accuracy formula suggested by Barkerond Wright, .92 reliability between observers viewing the same subject was established before they went into the classrooms in Mississippi to observe the aides. The observers attend a training session prior to each observation of the aides. The observers are able to gather their data on each aide in four days. Data collected from the rater observation scale will be put into a type six Lindquist analysis of variance mixed design. The three dimensions used in this design will be: (a) pre-, 4 week, 8 week, and 12 week observations; (b) observations categories (behavioral reinforcement, verbal interaction, teacher focus, child response); and (c) treatment groups.

Evaluation

All of the data collected from the instruments will be analyzed by an analysis of variance to measure significant change between groups. It is hypothesized that:

1. The mean effectiveness of the inservice treatment groups will be significantly greater than the mean effectiveness of the non inservice training groups as measured by the structured observational rating scale.

2. There will be a significantly greater change in attitudes and knowledge concerning classroom operations and child development among the inservice training group when compared to the non inservice training group.

3. There will be a significantly greater change in teacher effectiveness attitudes and knowledge of classroom operations and child development in favor of the eclectic group when compared with the lecture discussion and participation groups.

The enthusiasm and willingness of the aides to participate in this research study is most gratifying. The aides have been assured that their participation in this study will not in any way affect their job status or their financial remuneration for their program for their children. The enthusiasm and spontaneity of these aides has served and continues to serve as a real motivation for this experimenter.

THE EFFECTIVENESS OF A LANGUAGE DEVELOPMENT PROGRAM FOR DISADVANTAGED CHILDREN: INTERIM REPORT

Keith E. Stearns

In 1964, a three-year experimental study to develop and assess the effects of a diagnostically based curriculum for preschool age, psycho-socially deprived children was initiated at Indiana University. The development of the diagnostically based curriculum required that the individual strengths and weaknesses of the children be placed in a teaching format which would allow the teacher to proceed with instruction in a systematic, sequential manner. As with other preschool intervention studies, such as the Perry Preschool Project (Weikart, Kamit, and Radin, 1964) and the Murfreesboro Project (Gray and Kiaus, 1963), one of the major educational interventions conducted in this study was in the area of language development. This paper is an interim report focusing on the development of the language curriculum, the effects of the language curriculum, and the manner in which the language curriculum has been modified on the basis of the results.

Subjects

The subjects selected for the study included five-year-old children who had intelligence quotients between 50 and 85 on the 1960 Stanford-Binet Intelligence Scale, form L-M, and who came from families which were in the lowest socio-economic class as determined by the Index of Status Characteristics developed by Warner, Meeker, and Eels (1949). Children with major physical, sensory, or emotional handicaps which would limit participation in the school program were eliminated from the study. Children from the Bloomington, Indiana area who met the criteria for inclusion in the study were randomly assigned to either the experimental preschool group (EPS) or the regular control group. A third comparable group, the kindergarten control group, was established in a nearby community which did not have any public kindergartens.

Basically the population studied represented white Appalachian stock with a history of four years' residence in the area. In addition to being economically disadvantaged, the population can be described as being psycho-socially deprived based on evidence of dependency on public relief agencies, low levels of parental education, and police court records which include evidence of child abuse, incest, alcoholism, prostitution, and other problems.

Curriculum Development: 1964-1965

During the first year of the study, the language development aspect of the curriculum was organized as a substudy of the main study by Stearns (1966). The teacher of the EPS group was provided with a series of 67 diagnostically derived language development lessons to be used during the second semester of the academic year. Prior to the beginning of the structured language period, the teacher was given no explicit directions concerning language development for the experimental preschool group.

In developing the language lessons, the investigator attempted to meet two objectives: (a) to develop a pattern of language development based on observed linguistic deficits of individual children in the experimental preschool group and theoretical considerations relevant to language development of culturally deprived children as reported in the literature, and (b) to develop the pattern of instruction in such a manner that the classroom teacher working with teacher-pupil ratios typical of those found in special classes for the educable mentally retarded child (i.e., one teacher to fifteen students) could reasonably be expected to implement the pattern of instruction.

The design for the language development substudy employed the Illinois Test of

Psycholinguistic Abilities as both a diagnostic and an evaluative instrument. Accordingly, subjects selected for the main study were administered the ITPA as a pretest prior to the beginning of school, as a midterm examination for additional diagnostic and evaluation purposes, and as a posttest to evaluate the effect of the program at the end of the school year.

The basic strategy employed in the development of the lessons was to group children with similar psycholinguistic deficits for instructional purposes. In order to conserve instructional time, subjects were initially grouped on the basis of the pretest ITPA evaluations. It was assumed that, although there would be an overall increase in total language age at midyear, the pattern of strengths and weaknesses would remain constant.

Inspection of the individual profiles for the preschool test indicated that the majority of the subjects had a characteristic profile marked by deficits in encoding processes (the ability to express sneself in words and gestures) and relative strengths in visual decoding (the ability to understand what is seen) and auditory memory. The subjects had significant deficits on either vocal encoding or motor encoding, or on both. One subject had an essentially flat profile, while pretest protocols were not available for two other subjects.

The first 15 lessons were developed based on the assumption that the primary remedial focus should be in the expressive (encoding) areas. In addition, the observed strength of the group on the visual decoding subtest led to development of the strategy of eliciting encoding responses through the presentation of visual materials.

Analysis of the individual profiles for the midterm test was completed during the presentation of the first fifteen lessons. Examination of the group and individual profiles indicated that the assumption that the general pattern of strengths and weaknesses would remain the same from the first test to the second was incorrect. General gains had been made during the first semester in the preschool. The greatest gains had been made in the association and encoding areas. This tended to produce a flattened profile. Reexamination of the individual ITPA protocols indicated that the strategy of grouping children on the basis of similar linguistic disabilities was no longer feasible in the context of classroom instruction; this would have required that the teacher organize five different instructional groups. Observation of the class indicated that two language instructional groups represented the optimal instructional grouping.

Observation on the groups during language instruction and the teacher's comments on individual performance led to a logical basis for grouping. The subjects in the experimental group could be divided into two groups based on the teacher's estimate of vocalization during language lessons. The first group, characterized as a high-vocal group, was composed of individuals who tended to dominate and "overpower" the other members of the group during language instruction. The second group, characterized as the low-vocal group, was composed of children who were passive participants in their particular language instructional group. After constituting the groups on this basis, according to the teacher's recommendations, the ITPA profiles were reexamined.

The high-vocal group presented a pattern of few significant psycholinguistic deficiencies, generally presenting profiles with only one area of significant weakness and total ITPA language ages above four years seven months. Members of the low-vocal group typically presented profiles with significant weaknesses on three subtests and total ITPA language ages below four years seven months. The mean vocal encoding age for the high-vocal group was 66 months, while that for the low-vocal group was 51 months. In terms of maximum student participation in the individual lesson and minimum classroom management problems, this method of grouping for instruction proved to be successful. During the second and third years of the study the same grouping technique was used by succeeding teachers with similar results.

In developing the lessons, following this grouping, the low-vocal group was placed on an instructional core which stressed encoding aspects of psycholinguistic skills. The instructional commitment for the high-vocal group was based on the development of psycholinguistic skills which went beyond those encoding tasks provided for the low-vocal group. This included stress on those encoding tasks requiring the use of the type of skill represented by the association and automatic-sequential areas of the ITPA. An attempt was made to individualize instruction by providing the teacher with marginal notes on the lesson plans giving specific directions for individual children according to their psycholinguistic disabilities as indicated by the midterm ITPA results.

In addition to analysis of the ITPA profiles three major theoretical considerations—response elaboration, verbal definition, and verbal feedback—governed the development of specific lessons.

Two methods were used to develop response elaboration. The first method was directly related to the labeling activities present in many of the lessons which focused on encoding processes. The method was basically a three-step process. Step one was simply to label or name the object. Step two of the process required that the child improve the quality of his response by identifying the salient features of the object which he was labeling. Step three required that the subject discriminate (vocally) between similar objects on the basis of structural or functional characteristics and categorize apparently dissimilar objects based on some common feature.

The second method for developing response elaboration was related to the length and completeness of verbal responses. Through feedback, direct questioning, and supplying a model response, the teacher attempted to build from one-word responses to sentence fragments and complete sentences. This procedure was also followed in tasks which required a visual-motor response to complete a picture story.

Verbal definition was incorporated into all lessons. Church (1961) indicated that the concrete devices frequently used in education are of little worth if the student does not verbalize what he is witnessing, both in terms of meaning and relationship to other things. This was considered to be a major developmental aspect of the curriculum. Throughout the lessons, directions were provided which indicated that the teacher should supply the child with the correct response and talk throughout any activity in which she was engaged.

Two forms of verbal feedback were used. The first form was the modified feedback of the child's response. The assumption here was that verbal feedback of the child's response would constitute a potent form of social reinforcement. The second form of feedback, corrective feedback, as used in this study, was intended to provide the subjects with a model of an appropriate response without using a negative statement to identify the incorrect response.

Results: 1964-1965 and First Year Followup

During diagnostic language treatment periods, all groups increased in mean language age scores. The experimental preschool group entered the treatment period with a mean total language age score of 57.67 months and terminated the period with a mean total language age score of 67.25 months, an increase of 9.58 months. During the same time the kindergarten control group moved from a mid-term mean total language age score of 58.89 months to a posttest mean total language age score of 65.22 months, an increase of 6.33 months. Covariance adjustments were made for differences on the midyear test. The resulting F ratios were not significant. During the first semester, when the teacher was not provided with explicit directions for language development, the experimental preschool group's mean total language age gain was 9.84 months demonstrated during the language treatment period. The expected acceleration which was predicted as the result of the use of the structured language approach did not occur. In addition, increases in language age between groups during the treatment period, although in the direction predicted, were not reliable.

However, when the language age curves were plotted for the entire year, it appeared that the rate of acceleration of language age was markedly different for the experimental preschool group and the kindergarten and regular control groups. Pretest total language age means were 47.83 months for the experimental preschool group, 52.67 months for the kindergarten control group and 51.00 months for the out-of-school regular control group. Posttest mean language age scores were 67.25 months for the experimental preschool group, 65.22 months for the kindergarten control group and 63.20 months for the out-of-school regular control group. This represented gains of 19.42 months, 12.55 months and 12.20 months for the respective groups. Covariance adjustments to control for differences on the pretest yielded F ratios which were significant and indicated that the differences were reliable differences.

The results tended to indicate that an effective language program must be considered part of the total curriculum rather than an isolated activity which occurs at a prescribed time daily. Further, the failure of the kindergarten control group, which was ostensively receiving a traditional, middle-class oriented preschool program, to make significantly greater gains than the at-home control group raises once again the question of the adequacy of traditional kindergarten curricula to meet the needs of this particular group of children.

As part of the first-grade followup the three groups were administered the ITPA during late May and early June of the following year. Mean total language age gains of 5.55 months, 4.78 months, and 6.44 months were recorded for the experimental preschool group, the kindergarten control group and the regular control group respectively. These increases were significantly smaller than the increases made during the kindergarten year.

Comparison of the patterns of increase during kindergarten and first grade tend to indicate the effect of the curriculum. Comparison of pretest and posttest gains during the experimental preschool period indicated that the cumulative effect of the school experience produced the largest differential gains at the meaningful level on subtests which assess association (concept formation) and encoding (expressive language) processes. The smallest differential gains were made on subtests which assess auditory and visual memory factors and on the decoding subtest, which assesses the ability of the subject to comprehend what is heard or what is seen. An interesting sidelight occurred in the change pattern on the visual decoding (the ability to understand what is seen) subtest during the experimental language treatment period. During this period heavy stress was placed on the use of visual materials for stimulus. During this period the mean raw score increase on the visual decoding subtest for the experimental preschool group exceeded the total year mean raw score increase of the kindergarten control group and the out-of-school regular control group.

In contrast to this, the pattern of increases during the first grade was markedly different for the groups. Increases of four or more raw score points were noted for 65 subtests. The bulk (42) of these increases were auditory channel increases, with auditory-vocal sequential (auditory memory) and auditory decoding (the ability to understand what is heard) accounting for the majority of the increased scores. Encoding (expressive language) processes did not fare as well. Only nine increases were found on motor encoding (the ability to express oneself nonvocally) and vocal encoding (the ability to express oneself orally). The net result was a mean raw score increase in excess of four points on the two cited auditory channel subtests, opposed to a net mean loss of nearly one point on the vocal encoding subtest and a mean increase of slightly over one point on the motor encoding subtest. It would appear that the instructional model used by the first grade teacher who received this group of children was based on "talking at" the learner with little opportunity being provided for the child to express himself. The extreme auditory nature of the first grade curriculum is once again underlined when one compares the change in scores on the auditory decoding and the visual decoding subtest. The mean raw score gain on the visual decoding subtest was less than 15, while the mean raw score gain on the auditory decoding subtest was in excess of 4. 5. These findings again underline the importance of a continual balanced language development program which stresses oral language development. As a basic minimum, program materials such as the Peabody Language Development Kit may provide the necessary program to supplement whatever else the teacher might be using to stimulate language development.

Curriculum Development and Results: 1965-1966

During the first year the primary stress in developing the language lessons was placed on development of the psycholinguistic process. Based on the results of this study, the focus on language development was changed slightly to place more emphasis on the products used in developing language. Response elaboration, verbal definition, verbal feedback, and psycholinguistic assets and liabilities as assessed by the ITPA continued to provide major guidelines for the program. However, product identification developed in a sequential manner provided the basic lesson format. Systematically the groups were moved from lessons centering on various foods, to household items, through identification of the family and community resources. Stress was placed on developing elaborative descriptive statements and categorization.

Methods for evaluating the effectiveness of the program were changed. The ITPA was retained as a diagnostic instrument with evaluation of language development to be accomplished through language samples. This analysis has not been completed. Currently, an extended item analysis of the Stanford-Binet Intelligence Scale, Form L-M, is being conducted in an attempt to ferret out any evidence concerning the effectiveness of the language treatment. To date, the evidence tends to indicate that this language approach has had at least limited success. Analysis of performance on the Binet vocabulary indicates that significantly more members of the experimental preschool group passed the Binet vocabulary at the year VI level than did members of the kindergarten or regular control groups. The number of subjects in the kindergarten control passing the Binet vocabulary item at the year six level did not differ significantly from the number of subjects in the regular control group who passed the item. During the first year of the study, there was no difference in the proportion of children in any of the groups who passed the Binet vocabulary item at the year six level. During the first year of the study the language development stress was on the psycholinguistic process. During the second year the stress of the language curriculum was on the products occurring in the environment. One must ask whether the ability to define words is then a function of the differential stress in the language development curriculum.

Curriculum development: 1966-1967.

Profiting from the first two years' procedures and results, the stress of the language development curriculum has been slightly altered. Currently, two compatible language development programs are being conducted in the experimental preschool class. The first may be described as a general language development program. It parallels the best portions of the program for the first two years. Stress is placed on development of oral language skills, ability to use such dichotomous descriptive words as large and small, production of syntactically complete utterances, and categorization of objects. In addition, an attempt is being made to develop a set of teaching strategies which follow the general linguistic model employed by the ITPA. These strategies are then used for diagnostic and instructional purposes. Using these procedures concurrently with the general language development lessons allows the teacher to pinpoint in a more precise manner those areas in which the child needs additional instruction. Because of the generally unsatisfactory results obtained in past efforts to accelerate the development of auditory memory, visual memory, and other habituated language patterns, strategies have been developed to place heavy emphasis in this area.

Conclusions

Based on the findings of this study, the following recommendations seem to be valid:

1. A program of language development must be considered part of the total curriculum. Provided in isolation, such a program will have only minimal effectiveness. The teacher must structure her own methodology so that all school activities supplement the formal language development program.

2. The approach of using structured language lessons may be somewhat limiting. While (and there is no hard evidence to support this assumption) the mediocre teacher or the teacher with a low level of creativity may find such plans useful, the highly creative teacher may find the lessons somewhat limiting. Use of structured language development lessons might also lead the teacher into assuming that such lesson plans constitute a total language development program. In the final analysis, the teacher variable may be more significant than the curriculum employed.

3. The first grade followup data tends to indicate that the first grade curriculum to which this group of subjects was exposed was oriented towards the development of auditory decoding and memory processes. This was marked by significant gains in auditory decoding and memory process accompanied by minimal gains or losses in visual decoding and encoding processes. The extreme auditory nature of the first grade curriculum once again points out the need for a balanced program of language development which includes opportunity to use and develop oral language skills.

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PRELIMINARY RESULTS FROM A LONGITUDINAL STUDY OF DISADVANTAGED PRESCHOOL CHILDREN

David P. Weikart

Preschool intervention programing has been widely hailed as an effective technique for preventing the developmental deficits agreed to be common among culturally disadvantaged children. The basis for the interest in such programing is that early childhood seems to be the most promising time for effecting desired improvement in intellectual growth, establishing the basis for academic learning, and assisting social adjustment in general. While the theoretical basis would seem to point to an unusual potential for success in preschool education, the research results in the field have been disappointing. Historically, reviews of the research report few, if any, differences between groups of children attending or not attending preschool by the time the groups reach third grade. Although results reported here from the Perry Preschool Project with disadvantaged children are still preliminary, sufficient data are available to draw tentative conclusions. The results are not as encouraging as some might have hoped nor as bleak as some might have predicted.

The Perry Preschool Project has been supported through the Cooperative Research Program of the Office of Education, US Department of Health, Education, and Welfare, since January 1, 1964, and by the Ypsilanti Board of Education, the Washtenaw County Board of Education, and the Department of Public Instruction of the State of Michigan, since September 1, 1961.

This paper will report the longitudinal findings on the initial pilot group "Wave 0," who enrolled in the project in the fall of 1962. While complex data are available from a wide variety of assessment procedures, the information presented will be on intellectual growth as measured by the Stanford-Binet Intelligence Scale, on achievement patterns as assessed by the California Achievement Test, and on school behavior as rated by the Pupil Behavior Inventory and the Ypsilanti Rating Scale. The last section of the paper will report some initial findings regarding children from the experimental group who are high achievers as compared to those who are low achievers three years after completion of their participation in the project.

Overview of the Project. The Perry Preschool Project is an experiment to assess the longitudinal effects of a two-year preschool program designed to compensate for the mental retardation which is associated with cultural deprivation. The program consists of a cognitively oriented preschool and home visits to involve mothers in the educative process. The project has been in operation since September, 1962, and is scheduled for completion in December, 1967. More complete details can be found in other reports of the project (Weikart, 1967a).

The population from which each year's sample is selected is Negro, culturally deprived, and diagnosed as mentally retarded. Control and experimental groups are equated for mean cultural deprivation rating and mean Stanford-Binet IQ. Other measures include the Leiter International Performance Scale, the Peabody Picture Vocabulary Test, the Illinois Test of Psycholinguistic Abilities, the Parental Attitude Research Instrument (Radin Adaptation), and various school measures such as achievement tests, teacher ratings, and attendance records.

The preschool program is a permissive but teacher structured one to guide the youngsters toward increased cognitive development. Heavier emphasis is placed on verbal stimulation and interaction, dramatic play, and field trips than on social behavior and other traditional concerns of nursery schools.

Weekly home visits provide each family with an opportunity for personal contact with one of the child's teachers. The mother is encouraged to participate in the actual instruction of her child, thereby increasing her understanding of school, teachers, and the educative process. The teacher's demonstration of child management techniques indirectly teaches the mother alternative ways of handling children.

Group meetings for the mothers and fathers of preschool children provide opportunities for exchanging problems relating to children. This group approach serves to reinforce the changes in individual parents' views concerning the education of children.

The project involves a series of replications to obtain sufficient numbers for longitudinal study. Since youngsters attend preschool for two years, a new pair of three year old experimental and control groups is added each year to previous samples. The various groups who participate in the project are designated as "Waves." Wave 0 and Wave 1 started preschool in the fall of 1962. At that time, the Wave 0 children were four years old. The Wave 0 youngsters have spent a year each in the nursery, kindergarten, first and second grades, and are now in the third grade. Wave 1 and all subsequent Waves have had two years of preschool. Wave 5 started in the program in the fall of 1967. This report will discuss only Wave 0.

The Population. Ypsilanti and the surrounding township form a community of 50,000 persons on the fringe of the metropolitan Detroit area. Within ten miles are two major state universities, the University of Michigan and Eastern Michigan University, five major hospitals, many industrial plants, and small service businesses. The community has the lowest tax base of any unit in the county. Since housing is cheaper in Ypsilanti than in surrounding communities and since the city has the only public housing in the county, many working class families have settled in the city though they may work elsewhere.

About 25 percent of the Ypsilanti population is Negro with few in the middle class or above. Because of traditional housing patterns, almost all of these Negroes live in the southwest section of the city, where, for the most part, their children attend Perry School. Because of the major problems faced in the education of lower class Negro children, it was determined to locate the project in the Perry area.

Selection of the Yearly Samples. To reach the total preschool population in the Perry School area, the school census information is reviewed in the fall of each year to locate the families who have not been surveyed in the spring. Interviews are held with these families, and data pertaining to socioeconomic status collected. From these data, a cultural deprivation (CD) rating is calculated (adapted from CD index by Martin Deutsch of the Institute of Developmental Research, New York City).

1. The father's occupation on a four point scale (the mother's occupation if there was no father in the home). (One point for unskilled, four points for skilled work)

2. Average number of years of education completed by the mother and the father (or by the mother only, if no father was in the home).

3. Density in the home (number of rooms/number of people) multiplied by 1/2 to give this ratio a 1/2 weight.

Each component is divided by its standard deviation to equate the different distributions. The cultural deprivation ratings of the families with children of appropriate ages ranged between 5.3 and 16.8, and a cutoff point of 11 is used as the upper limit.

The next procedure is to administer the Stanford-Binet Intelligence Scale to the children with a CD rating below 11. Only those children who are evaluated by the examining psychologist as educably mentally retarded, with no major organic involvement, are considered eligible for the preschool program. The obtained scores are regarded as a function of cultural deprivation and, as such, indicate those children needing assistance.

The specific sample of each wave of the Perry Preschool Project is defined as three year old children living within the boundary of the Perry School district, coming from culturally deprived families, and testing in the range of "educably mentally retarded."

The experimental and control groups are matched initially on two selection criteria, cultural deprivation and mental retardation. Two additional factors, sex ratio and percentage of working mothers, are also balanced when possible. Descriptive data on the experimental and control groups of Wave 0 can be found in Table 1. The project has experienced little difficulty in gaining cooperation of parents whose children have been selected to participate in the project.

Table 1

Characteristics of Wave 0 at the Time of Entrance: September, 1962

Characteristics	Experimental	Control
Size of Sample	13	15
Mean Stanford-Binet IQ	78.4	75.0
Mean Cultural Deprivation Rating	8.5	8.2
Percent of Boys	62	60
Percent of Working Mothers	8	20

The Instructional Program. In establishing the project the only requirements outlined for the instructional program were that it be designed to compensate for and prevent further cognitive deficits and that it operate five days a week three hours per day. The project does not attempt to assess different methods of educational intervention. Wave 0, 1, and 2 experienced a gradually evolving program with an instructional method that can best be described as "verbal bombardment." In this method, the teacher maintains a steady stream of questions and comments to draw the child's attention to aspects of his environment. This bombardment does not necessarily demand answers on the part of the children. It is continued when rewarding a child for a good performance, when disciplining him, and when presenting academic material. The complexity of the language is increased as the child's verbal ability develops. An observer in preschool groups receives the impression that the teacher resembles a middle class mother interacting with her young children.

Wave 3 and succeeding Waves of the project are experiencing a somewhat different program. A program based upon Piaget's cognitive development theory has been implemented. The instructional program can be best described as an effort to firmly establish the precursors essential for the child's development of an adequate foundation to permit the growth of language and logical thought.

Findings

There are three areas that preschools must demonstrate ability to affect in the general development of children. These are intellectual growth, academic achievement, and school behavior. It is critical that the effects of preschool programing be observable several years after the experience and that they be measured by instruments that are at least systematic, if not standardized. It may be too much to expect that a single preschool experience for eight weeks or even two years affect the course of all future development. Yet, it is essential that there be some measureable impact. Immediate, good reports from teachers and parents are not sufficient evidence upon which to justify massive preschool programs.

Intelligence Test Results. Table 2 presents testing results on the Stanford-Binet Intelligence Scale for the Wave 0 experimental group and their controls over a four year period. At the start of preschool programing there was no statistically significant difference between the group selected to receive preschool stimulation and those who were to remain at home without the program. By the end of one year of preschool instruction, the experimental group had a 12.7 IQ gain (78.4 to 91.1). The control group had gained, without preschool, 7.2 IQ points (75.0 to 82.2). This difference in group means is statistically significant. However, at the end of kindergarten and again at the end of first grade, the difference in group means does not reach statistical significance as the experimental group decreases several IQ points and the control group gains several more points. By the end of second grade, the trend is complete and the experimental group is almost identical in measured intelligence with the control group (85.5 versus 83.9).

Table 2

Stanford-Binet Intelligence Scale: Wave 0 Data

Time of Comparison		Experimental (N-13)	Control (N-15)	Difference	Significance
Fall, 1962	Entrance into preschool	78.4	75.0	3.4	n. s.
Spring, 1963	Completion of one year in preschool	91.1	82.2	8.9	.01
Spring, 1964	Completion of kindergarten	88.9	84.6	4.3	n. s.
Spring, 1965	Completion of first grade	90.7	84.6	6.1	n. s.
Spring, 1966	Completion of second grade	85.5	83.9	1.6	n. s.

While the data are not presented here, the measured intellectual growth pattern followed by Wave 0 is being closely paralleled by each succeeding replication of this initial study.

Achievement Data. With this strong indication that intelligence test performance by children from limited environments attending regular schools will not be modified permanently by preschool experience, it is critical that the achievement pattern of preschool trained children be compared with those of the non-preschool group. A consistent series of studies has found that, at the end of the kindergarten year, achievement on reading readiness tests and teacher rating of reading readiness show no statistically significant differences between control and experimental groups (Henderson, 1965;

Kirk, 1958). Indeed, Alpern (1966) even found that at the end of preschool there was no difference in reading readiness. More important to studies of preschool effectiveness are the achievement results in elementary grades for those youngsters who have participated in programs as compared to those who did not. Table 3 gives the information on two years of achievement scores from the California Achievement Tests administered at the end of first and second grades from the Perry Preschool Project.

Table 3

California Achievement Tests: Wave 0 Data (Mean Percentile Rank)

Spring, 1965, completion of first grade	Experimental	Control	Difference	Significance
Reading	30	8	22	.05
Arithmetic	10	3	7	.05
Language Skills	39	16	23	.05
Total	22	5	17	.05

Spring, 1966, completion of second grade	Experimental	Control	Difference	Significance
Reading	23	4	19	.05
Arithmetic	17	5	12	.05
Language Skills	20	3	17	n. s.
Total	18	3	15	.05

The startling finding is that the experimental group is able to profit from regular school instruction and obtain a highly significant achievement superiority over the control group. This finding is even more striking when Table 2 is reviewed and it is recalled that the actual measured intellectual level is the same for both groups.

These data suggest that preschool experiences for children from disadvantaged homes will not greatly change the measured intellectual level, but may provide the foundation necessary to produce improved academic achievement. With preschool, groups of children from limited environments may be able to better utilize the general intellectual ability they have in a school setting.

School behavior data. Information on school and social behavior has been the most illusive of data on preschool effectiveness. While nearly all preschool projects report that participating children are "more open" as a result of their experience, follow up information is seldom available.

Two social rating scales have been employed in the Perry project. The first, the Pupil Behavior Inventory was developed by Vinter, Sarri, Vorwaller, and Schafer (1966) of the school of social work, University of Michigan, for appraising classroom behavior of junior high delinquent boys. It was designed to measure behavioral and attitudinal factors which affect the degree of success a pupil will have in achieving educational goals. The scale is completed by teachers who rate 34 different school related items on a five point scale for each child. The original scale has been found to be adequate and has been used without revision for the purposes of the project. Five factor scores are obtained: classroom conduct, academic motivation and performance, socio-emotional state, dependence upon teacher, and personal behavior.

Table 4 presents the ratings of the experimental and control groups from kindergarten through second grade. Three trends may be observed. The first trend is that only one of the five factors is statistically significant at each grade level—academic motivation in kindergarten, socio-emotional state in first grade, and personal behavior in second grade. Second, and more important is that except for the teacher dependency factor, all mean ratings favor the experimental group on all factors each year. Third, children who have attended preschool are consistently seen by teachers as being equal or slightly more dependent upon teacher aid than children who have not had preschool, indicating little difference in teacher-child relations in spite of greater experience in school by experimental children.

Table 4

Pupil Behavior Inventory: Wave 0 Data

Factors	Experimental	Control	Difference	Significance
Spring, 1964—Kindergarten				
Classroom Conduct	3.737	3.666	.071	n.s.
Academic Motivation	3.385	2.667	.718	.05
Socio-Emotional State	3.723	3.557	.166	n.s.
Teacher Dependence	3.269	3.557	-.288	n.s.
Personal Behavior	4.244	3.905	.339	n.s.
Spring, 1965—First Grade				
Classroom Conduct	3.639	3.633	.006	n.s.
Academic Motivation	3.523	2.943	.580	n.s.
Socio-Emotional State	3.954	3.353	.601	.05
Teacher Dependence	3.500	3.233	.267	n.s.
Personal Behavior	4.333	4.092	.241	n.s.
Spring, 1966—Second Grade				
Classroom Conduct	3.804	3.434	.370	n.s.
Academic Motivation	3.273	2.682	.591	n.s.
Socio-Emotional State	3.969	3.557	.412	n.s.
Teacher Dependence	3.635	3.643	-.008	n.s.
Personal Behavior	4.410	3.982	.428	.05

A second rating scale, the Ypsilanti Rating Scale, was developed to permit teachers to make more global ratings of child development. This scale includes four factors: academic potential, social development, verbal skill, and emotional adjustment.

Table 5 presents the information from this scale. While no significant differences are found in the kindergarten or first grade, the experimental group is rated significantly better on three of the four factors in second grade. At all levels, the experimental group is rated higher than the control group on all factors. As on the Pupil Behavior Inventory, teachers assign children in the experimental group increasingly higher ratings at each grade level on social development while the ratings of the control group remain unchanged. Surprisingly, teachers do not rate experimental group children significantly higher in academic potential in spite of their better actual achievement on standardized tests.

Table 5

Ypsilanti Rating Scale: Wave 0 Data

Factors	Experimental	Control	Difference	Significance
Spring, 1964—Kindergarten				
Academic potential	13.85	11.38	2.47	n. s.
Social development	12.77	12.07	.70	n. s.
Verbal skill	4.54	3.64	.90	n. s.
Emotional adjustment	8.31	7.57	.74	n. s.
Spring, 1965—First Grade				
Academic potential	13.50	10.13	3.37	n. s.
Social development	14.08	12.40	1.68	n. s.
Verbal skill	4.50	3.93	1.07	n. s.
Emotional adjustment	10.50	9.40	1.10	n. s.
Spring, 1966—Second Grade				
Academic potential	13.54	11.00	2.54	n. s.
Social development	15.92	11.07	4.85	.01
Verbal skill	5.08	3.64	1.44	.01
Emotional adjustment	10.77	7.71	3.06	.01

On the whole, then, the results from teacher ratings of pupils for Wave 0 support the position that one year of preschool experience does make a difference in school behavior. In fact, the impact of preschool seems to be increasing each year instead of becoming less.

High and low achievement groups. In the final analysis, the goal of most preschool projects is successful academic performance in school. With full recognition of the dangers involved in establishing groups after the data have been collected, Wave 0 experimental group children were divided into two subgroups based upon first and second grade achievement test scores. High achievers were defined as those children who obtained California Achievement test total scores at or above the 12th percentile in both grades, while low achievers were defined as those children with total scores at or below the fifth percentile. The mean second grade percentile rating for the high achievers was the 37th percentile. The mean for the low achievers was the second percentile. An examination of scores of children in the control group disclosed that none obtained a California total score high enough to be classified as a high achiever and that the group as a whole obtained a mean at the third percentile level.

Table 6 presents the information on intelligence test scores for the high and low achievers from the experimental group. While there is an initial mean difference in Stanford-Binet IQ, both groups show a gain of about 14 points during the year of preschool. The difference between the groups is that in subsequent years the high achievers maintain and improve their Stanford-Binet performance while the low achievers gradually return to their initial level of performance. While final differences in IQ are substantial, they are not statistically significant for these small groups.

Table 6

Stanford-Binet Intelligence Scale
High and Low Achievers[a], Wave 0 Data

Time of Testing		High Achievers (N=5)	Low Achievers (N=5)	Difference	Significance
Fall, 1962 -	Entrance into preschool	82.0	75.6	6.8	n.s.
Spring, 1963 -	Completion of one year in preschool	96.0	89.8	6.2	n.s.
Spring, 1964 -	Completion of kindergarten	99.2	80.8	18.4	.05
Spring, 1965 -	Completion of first grade	98.4	85.2	13.2	n.s.
Spring, 1966 -	Completion of second grade	98.2	78.8	19.4	.05[b]

[a] High achievers are defined as those who obtained a California Achievement Test score above the 12th percentile level in both first and second grades. Low achievers are those whose scores were below fifth percentile in both grades.

[b] Analysis of covariance was performed to adjust for initial mean differences. Adjusted Spring, 1966, difference was 14.4, and it is not significant in this small sample.

Review of the results on the Pupil Behavior Inventory and the Ypsilanti Rating Scale show distinct trends. The high achievers are consistantly rated higher than are the low achievers although the differences are seldom statistically significant. Teachers rate high achievers significantly higher on academic motivation and potential than low achievers by second grade, however. This is in line with actual achievement profiles and may reflect a good achievement-good behavior-good achievement cycle.

Low achieving experimental children tend to occupy a position midway between high achieving experimental children and the control group in general on the two behavior rating scales. The low achieving children test below the control group on the Stanford-Binet but are no different in achievement.

Discussion

Preschool has been highly heralded as a major method of altering the patterns of intellectual growth, academic learning, and social adjustment of disadvantaged children. From these data, it would seem that the problems are more complex than initially thought. While the group of children who experienced a structured preschool did not record a permanent long term gain in intellectual ability when compared to a control group, it is evident that the experimental group is actually two distinct subgroups. When the subgroup that did produce academic achievement is examined, it is apparent that they obtained significant IQ growth in the year of preschool and consolidated that growth over the following three years. Further, they were able to profit from academic instruction offered by the elementary school, achieving only slightly below expectation for their intellectual level. Perhaps even more important, teachers rated them highest on various social behavior factors such as academic motivation, personal behavior, etc. In short, preschool experience, as an educational therapy, was successful with about half of the youngsters.

For the experimental subgroup that did not respond to preschool, the pattern is also clear. After an initial gain in functional ability, as measured by an IQ test, this subgroup reverted to its original level of functioning during the three year followup period. The group was unable to profit from regular academic instruction, demonstrating little, if any, academic achievement. There were social changes, however, as teachers tended to rate this subgroup more favorably than the control children as a group.

When the control group is examined, it is clear that none of the children are able to profit from regular school instruction and that teachers rate their social behavior in less favorable terms than either of the experimental subgroups.

It is difficult to place the preliminary findings presented in this paper in the framework of other current preschool research studies until more long term followup data are available. In general, all programs which employ a carefully structured preschool curriculum (Kohlberg, 1967, Sprigle, 1967, Weikart, 1967b) report first year IQ gains of about 15 points, depending on the population served. These data are a far cry from those reported by Smilansky (1966) of an average IQ gain of 30 points for disadvantaged Israeli children in preschool projects of the Szold Institute. On the whole however, these preliminary results should be cause for rejoicing. Any time education can point to a technique that offers a 50 percent "cure" rate with mean gains of 16 IQ points of four year duration, almost average achievement for a two year period, and good social behavior ratings, we have something to be enthusiastic about. Yet these findings are based on a small pilot sample. Worse yet, the experiment is in the process of being replicated not once but five times. This spring all Waves in the project will be tested again and more evidence as to whether these initial findings are representative will be forth coming. It is not possible to make too many claims when the data which may refute these claims may be collected by my own staff.

Then too, several issues are raised as a result of these findings. One of the more important is why was the curriculum effective with only half of the youngsters? An extended study of structured preschool curriculum methods is called for. Alternative efforts to reach children at an even earlier age would seem appropriate. Other preschool styles might be employed such as home teaching to involve the mother as a supporting aide to promote intellectual growth. Second, why were at least half of the children able to profit from the regular elementary school curriculum? It has become fashionable to say that the reason for the failure of Headstart children to achieve in kindergarten or first grade is the curriculum and teaching they encounter. Apparently this is not correct. It is the training they received before they entered elementary school that is equally in error. Third, academic success precedes changes in behavior and motivational patterns. On the basis of standardized achievement tests the high achieving group was differentiated from the low achieving and control groups in first grade. But teachers did not recognize a difference in other areas until a year later.

The phase in preschool research as represented by the Perry project was essential in the development of educational answers to massive deprivation faced by minority group children. The initial evidence suggests that preschools can alter intelligence, school behavior, and achievement for some children. Meaningful action to ameliorate the problems of disadvantaged children is possible, but preschools are not the sole solution. Other methods must be found so that more children can be reached. The goal is the identification of critical situations that produce or prevent adequate intellectual development. Preschools can contribute to that goal.

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INSTRUCTIONAL AIDS FOR FOREIGN LANGUAGE TEACHERS OF HOSPITALIZED AND HOMEBOUND STUDENTS

Pat Castle

The need for foreign language ability has been dramatized by the pressures of highly competitive international business, jet transportation, international telecommunications, and military needs. The Federal government has responded to the need through the various title programs—for example, NDEA Title III, which I represent for foreign languages in the office of the State Superintendent of Public Instruction, Illinois. This program and others are helping provide equal opportunities for learning to all students. But you, the teachers of hospitalized and homebound foreign language students, know that these students first must be motivated sometimes more than ordinary classroom students. You know that these students even more than others have to learn that we do things that are difficult even when we don't feel like doing them in order to keep up with our classmates. The individual today who faces the task of helping others to learn soon finds that he needs every resource possible to do his job. He needs a variety of materials to assist in his work of presenting all kinds of facts and types of information. And he needs above all to vary his methods of teaching, to be creative, and to have the courage to discard that which doesn't succeed. Any teacher today will do a better job if he secures the modern tools that have been designed to help both teachers and students.

Perhaps we all agree with the idea that when all is said and done, the fact remains there is no more versatile or sensitive visual aid than the teacher's face and manner. But for the homebound foreign language student the teacher is not present much of the time. Therefore, daily use of electronic equipment and other aids must be used in developing the skills necessary to master a foreign language. The electronic equipment will also be a tremendous asset to the teacher in his day by day approach to his work which demands imagination and resourcefulness in creating linguistic springboards for his pupils. Never before has the teacher of a modern foreign language had the large number of excellent instructional aids at his disposal that he has today. And for the teacher of homebound students this is even truer. In the past year much of the new equipment has been manufactured in high quality portable size so that a teacher can easily carry with him whatever he needs to make his visit to each home or hospital eagerly anticipated, very pleasant, and highly successful.

It would be impossible even to mention the great variety of materials and equipment available (and I do not pretend to know all of them) but from my own experience and research I have selected several aids which can be of tremendous benefit both to the teacher and to the homebound student. I realize that your situations vary greatly and that your problems are complex, that what applies to one of you may not apply to others, depending in part on whether you teach in a large city or in a small community. However, there are certainly some problems that are common to all, and the most obvious one is that of acquiring the necessary equipment to do your job efficiently and effectively. You must see to it that your school, materials center, board office, or whoever hires you, acquires the materials and equipment you want. They certainly will not do this unless you know what you want and let them know how important it is for both you and your students to have it.

Some teachers are fortunate enough to be a part of a system which already has the marvel of the dial access retrieval process for their foreign language classes as well as for any other courses which use taped materials. If you teach in a city where the high school or college has such a dial retrieval system, it may be possible to install a temporary listening station in the home or hospital, thus making it possible for the student to dial requests to the central program source where all the tapes are automatically available. Some teachers have a homebound student's telephone connected directly to the classroom. This enables the pupil to be an active participant in his class and have the feeling of still belonging to his group.

Both on the national and the state level, new and powerful support is building up to broaden educational television coverage. Many states at present have networks which broadcast foreign language lessons daily. Whenever they exist, these facilities should be used as fully as possible. For good results in foreign languages, however, these lessons must be skillfully introduced and reinforced by the classroom teacher.

The more immediate concern for us today is to consider what can be recommended for purchase and used most effectively by you, the teachers. The homebound teacher should be so knowledgeable that he can make intelligent choices of high quality items to have available in the foreign language materials and equipment library. Today's equipment is infinitely more useful and reliable than ever before. The key to successful use of this equipment is the confidence that comes from knowing how to use the equipment properly, knowing when to use it, and knowing what can be reliably expected as the result from using it.

If you are a teacher of homebound students in a large city, your materials center should certainly include complete sets of all texts that are being used in the schools of your city because the present day type of homebound student comes from a school and will be returning to a school. He expects his teacher to keep him up with his classmates in his subjects so he can maintain his class standing. In addition to the texts which should be color coded by language and stored on open shelves for easy access, the large city materials center should also have placed close to the texts the related tapes, discs, slides, filmstrips, and films with a variety of easily portable equipment for their use. There should also be material for developing and repairing transparencies. Above all there should be an amply supply of professional quality tape recorders which can be loaned to the student where necessary.

Whether the homebound child is in elementary school or high school, his teacher must try to create in the child's room a cultural island where the student must dwell in order to make the culture which is being studied an expression of his own involvement. In order to do this and to gain fluency in any language, great quantities of practice are required. But bare recall is not the goal in modern teaching. Involving the student with materials in an easily identified sociolingual context is a recognized must. In foreign language teaching this process is probably at its highest level of complexity. It is here that the new electronic equipment involving the use of tapes, filmstrips, films, records, etc., is fun as well as of tremendous value. The wealth of voices, images, actions, and music exists to motivate the linguistic potential of the student. When properly used, tapes will produce highly predictable results. The use of tapes will provide a much greater quantity of the needed drill than any other of the more conventional techniques paving the way for the student's personal acquisition of new speech habits. All teachers whenever possible should develop good original materials, too. A skilled teacher can tape adaptations of songs, poems, and graded literature into exercises designed to support specific skills. Using tapes with the new electronic equipment can make a real learning difference because it can keep the child from becoming depressed. He can progress at his own rate. Taped materials are always used with the purpose of establishing normal speech habits to express thoughts, ideas, and emotions in the target language with the greatest degree of economy and efficiency. The best results are achieved when each student is provided with recording equipment which permits unlimited replay of program material. Today correlated audiotapes are available for most major texts. These new audiolingual courses consist of tapes, films, filmstrips, student practice records, student texts, teacher's manuals, and student tests.

Some audio programs have been developed as the basic source material with text materials playing a supplementary role. These correlated audiotapes also provide the opportunity for the student to speak as well as listen.

Fluency in a second language results from a mastery of its patterns of intonation, stress, and rhythm. The student must be taught to discriminate between accurate and inaccurate sound reproduction. He must maintain this discrimination during his entire use of practice tapes. By the students' imitation of the materials on the master tapes and by examination of the taped lesson by the teacher, the week by week progress of the pupil can be supervised. The student is typically in no position to do this for his own pronunciation, as the inexperienced speaker is usually an inexperienced listener.

Values in using recorded lessons for the improvement of instruction are limitless. Taped lessons are thought provoking and exciting to students as they work independently. Prerecorded instructional taped lessons can be used for all levels of language learning and for all types of students to increase skills, to enrich the text lessons, to reinforce the known skills, and to review. If you so desire, these recorded lessons can be used in conjunction with a participation worksheet on which the student responds immediately as he listens. The worksheet is a record of each student's understanding of the taped lesson. Following completion of a lesson on tape, the worksheet can be used by the teacher for evaluation and for planning followup activities.

It is obvious that I believe that good taped materials and a high quality tape recorder are certainly the most important instructional aids a teacher can have because they motivate the student in a way which is far more effective than possibly any other materials. The most widely used tape recorder in education today is probably the Wollensak. It is reliable, of compact design, and has easy to use push-button controls. Any teacher can carry it since it weighs only 18 1/2 pounds. However, in using this conventional type tape recorder, the student is confronted with the problems of handling the tapes, threading the machine, having tapes break, etc., which can be frustrating. A new cartridge type tape recorder is available which I believe is the best type of tape recorder for the homebound student to use because of the extreme simplicity of operation and the great versatility of use. This particular sample is a product of the Jensen-Thorsen Corporation of Addison, Illinois. This high quality, rugged tape recorder is only seven inches long, five inches wide, and six inches high, weighing only seven pounds. Each cartridge is a completely enclosed two real tape system with the tape permanently bonded to the reels. It automatically stops at the end of the reel and a friction clutch prevents the tape from breaking within the cartridge. Each tape has two tracks of forty-five minutes of playing time per track, and the company will transfer any standard text tapes to these cartridges for a small fee. Thus, any teacher can use commercially prepared tapes or prerecord his own drills and exercises for his students, each on an individual cartridge. The tape cartridges have a built-in interlock mechanism which makes it impossible to erase or record over previously recorded material. The amplified head set and boom microphone allow the student to speak and hear his own voice through his headphones. It is also possible for the student to listen to the instructor's pronunciation on the master tape, then record a phrase as directed by the tape, rewind his tape cartridge and compare his own pronunciation with that of the instructor.

Another valuable but simple instructional aid is this "audio-notebook" manufactured by Electronic Futures, Inc., of North Haven, Connecticut. It is a wireless portable tape recorder which contains 5 1/2 hours of reading and playback capacity per reel of tape with dial selection of up to 22 fifteen minute channels. One reel of this EFI tape actually replaces as many as seven five inch reels, or an entire semester of standard 1/4 inch tapes. This material can be conveniently used for listening and learning by the student confined to home or hospital. It can be used anywhere without connection either to electric power or program source input. The Transiphone Headsets can plug into the audio-notebook for a full listen-respond-record system. The teacher can carry the whole audio-notebook system with the Transiphone in a durable attache case. It is really a complete student learning position in a briefcase for use indoors or out.

For those of you who teach small groups of students in a hospital, the use of this EFI Learning System with its audio-notebooks and fully activated student headsets makes possible the essential features of a language laboratory. It is very economical, because there are of course no installation costs. All leading publishers' materials are available on these EFI tapes. This system features student record by teacher push-button selection for testing or subsequent playback. It enables the teacher to keep week to week progress records of student accomplishment and to record dialogue drill and group conversations if he so desires. Material from other audio sources can easily be transferred to these tapes. Thus, the expertly prepared and highly appealing recordings of poetry and segments of the world's masterpieces can be available by pushing a button.

Another practical device for individual drill and practice is the Language Master, manufactured by Bell and Howell. In using this equipment the teacher is able to record on individual cards the sounds, words, or phrases his pupils need most to practice. By simply replacing the cards the student can hear the correct model repeated as often as he desires. Commercially prepared language cards are also available.

While it is generally conceded that the audio equipment and materials have preeminence in the learning of foreign languages, the good teacher of the homebound student cannot neglect a presentation of those visual materials which should be utilized in a normal classroom situation. The creation or acquisition of these visual supplements to assist in concept formation and to use as cues in testing are an important activity of the expert teacher. Teachers who merge the spoken language into a contextual, visual framework discover that it is not often necessary to translate. Instructors who neglect to include the visual context when teaching language are not fully utilizing the abilities of their students. They are treating them as if they are blind. Of course, a visual aid cannot accompany every utterance, but certainly the beginning years of language study, whether in elementary or high school, should be filled with realia, pictures, and physical motions which serve to visualize what is being said. Films, filmstrips, slides, pictures, cut-outs, and the visuals for the felt board should be used not merely to supplement a basic foreign language program, but as a way to teach the basic part of the course. Inexpensive pictures of everyday situations, suitable for transparencies, are now available.

It is quite possible to teach structural patterns with the overhead projector and transparencies. The overhead projector is one of the most useful and versatile devices for using visual materials. The teacher of the homebound child now has available a lightweight collapsible projector, manufactured by the 3M Company, who also has on the market several foreign language transparencies. A quick way to make transparencies has now been developed by the Polaroid Company. If you own a Polaroid Land Camera you can now buy Polaroid Land Transparency Film. Then just aim the camera at your source material, click the shutter, pull a tab, count, and peel a transparency from the back of the camera. It should be mounted in a snap together frame—and it's ready to use.

The visual materials I wish to discuss now are of two types and may be described simply as still pictures and moving pictures. Still pictures capture a significant moment of an event for careful analysis; moving pictures, of course, provide a sharply focused experience of any culture patterns we wish to illustrate. Even the most intricate and detailed expressions of a culture are available on film. Newer models of movie projectors make it possible to stop a film instantly in order to take fullest advantage of a conversational situation.

Whether one uses line drawings or photographs seems to be a matter of personal preference, but certainly one or the other should be used daily in beginning foreign language classes, because a picture represents an element of reality more basic and often more potent than language itself. Either can prompt recall of an event. Photographs show a whole situation in context but often distract the learner by providing information irrelevant for the immediate purpose. A drawing, on the other hand, permits the teacher to divide it into units of meaning which represent an outline of reality, simplified as a result of the artist's ability and the author's creativity.

Films furnish the language teacher with illustrations of a foreign culture, professionally acted dialogues, and recitations of literature for the more advanced students. Especially important are 8mm films which briefly present the main themes of a culture which manifest themselves in the arts and social behavior. Several companies are now beginning to produce these five-minute single concept films for foreign language teachers. Film Associates of California, in Los Angeles, now has available for French teachers more than a dozen of these single concept films in the Magi-cartridges for use in the instant movie projectors of Technicolor Corporation of Costa Mesa, California. They are excellent because they are short and cartridge loaded, and it is therefore convenient for students and teachers alike to have specific items of information at the moment when those items are needed. They enable the learner to have repeated viewing at his own individual pace. Everyday language activities of a people—food preparation, eating, greetings and leave-taking, making acquaintances, giving and receiving gifts, festivals, rituals, games—are available in single concept films. There are also filmed scenes of visits to families, schools, churches, stores, factories, etc. There are filmed recitations of poems, monologues, brief short stories, dramatic and operatic selections, and songs. No one school, of course, will own all of these films, but the good teacher will select those best suited to her needs and will gradually build a fine collection.

Similar to the single concept films and also becoming increasingly popular and effective as teaching tools are the animated cartoon films available in several languages. I feel certain that these four or five minute colored loop films will, within the next few years, make an increasingly important contribution toward more successful learning as well as toward more efficient and enjoyable teaching. There is no reason whatsoever why learning a foreign language should be boring, monotonous, and somber. These new cartoon films command attention over a considerable period of time and if used wisely make a dynamic impact on the viewer. They reach the student through the great emotional appeal possible in a visual reality, simplified and organized by the producers. Because cartoon series help students learn and understand dialogues, they have become a vital part of the language instruction at the Army Language School in Monterey, California.

Obviously, there are various ways of using this important new teaching tool. Four minutes of silent viewing may be followed by a second showing using a simultaneous foreign language commentary at whatever level of learning the student has achieved. The teacher thus combines the visual with the auditory stimulus to achieve something close to intuitive learning, particularly if the followup questions are oriented toward verbal progression, cause, effect, and consequence relationships as well as toward descriptive detail. There is ample justification for repeating the film, switching from single word answers at a lower level to a running commentary by individual students for the more advanced pupils. Meaningful situation bound drill in grammatical categories is also possible. Some teachers frequently present the story orally prior to showing the film to the class. Thus, when the student sees the film, the moving image acts as a reinforcing factor in the process of intelligent assimilation of language content. The several kinds of foreign language films are available from many sources, one of which is The International Film Bureau, Chicago, Illinois.

One other item should be mentioned. It is the US Government Bulletin, "Source

Materials for Secondary School Teachers of Foreign Languages," available for $.25 from the US Government Printing Office. It contains information about many types of instructional aids and gives the addresses of the companies. The following are some companies having equipment and materials suitable for foreign language teachers of homebound students (write for free catalogues):

Company	Materials
American Optical Company Instrument Division Buffalo, New York 14215	Slide projectors and overhead projectors.
Bailey Films, Inc. 6509 DeLongpre Avenue Hollywood, California 90028	Spanish language editions of social studies films for use in junior and senior high schools.
Bell and Howell 7100 McCormick Road Chicago, Illinois 60645	Portable slide projectors and filmstrip projectors.
Bowmar Records 10515 Burbank Boulevard North Hollywood, California 91601	Foreign language records of many kinds.
Chester Electronic Laboratories Chester, Connecticut	Dial-retrieval language laboratories.
Children's Music Center, Inc. 5373 West Pico Boulevard Los Angeles, California 90019	Tape recordings, filmstrips, books, slides; all languages, all grade levels.
Continental House 224 East 86th Street New York, New York 10028	European LP records of literature, poetry, historical events, and music.
Coronet Films 65 East South Water Street Chicago, Illinois 60601	Large selection of foreign language films.
Dage-Bell Corporation 2406 West Brynmawr Chicago, Illinois	Dial-retrieval language laboratories.
DuKane Corporation St. Charles, Illinois	Electronic equipment for language learning.
Eastman Kodak Company Rochester, New York 14650	Carousel slide projector (80 slides automatically, remote control).
Electronic Futures, Inc. 301 State Street North Haven, Connecticut	Audio notebook (wireless tape recorder) 5 1/2 hours of recorded material on each tape.
Film Associates of California 11014 Santa Monica Boulevard Los Angeles, California 90025	Single concept films (for use in Technicolor Magi-cartridges also).

Company	Materials
Gessler Publishing Company 110 East 23rd Street New York, New York 10010	Filmstrips, records, and tapes covering a broad variety of subjects in French and Spanish.
Goldsmith's Music Shop, Inc. Language Department 401 West 42nd Street New York, New York 10036	Graded recorded learning aids; records, tapes, filmstrips; many languages.
Graflex, Inc. Rochester, New York 14603	Portable 16 mm movie projector with built-in screen for daylight viewing.
Hudson Photographic Industries Irvin-on-Hudson New York, New York	Rear-projection screens (fold flat to carry like a briefcase); operates with any movie or still projector; Filmstrip Repair Kit (repair torn filmstrips in seconds right at the projector with quiksplice).
International Film Bureau 332 South Michigan Avenue Chicago, Illinois 60604	Excellent foreign language films from many countries; most are in color; low rental; narrative paced to students' needs and abilities.
Jensen-Thorsen Corporation 239 Interstate Road Addison, Illinois 60101	Small cartridge type tape recorder.
Lorraine Music Company Post Office Box 4131 Long Island City, New York 11104	Recordings of French, German, Russian, Spanish songs, drama, poetry, and prose with verbatim texts.
3M Company Dept. Av 2307 St. Paul, Minnesota 55119	Overhead projectors, filmstrips, transparencies.
The MLA Materials Center 4 Washington Place New York, New York 10003	A service of the MLA. Will send annotated list of available materials.
Pathescope Educational Films, Inc. 71 Weyman Avenue New Rochelle, New York 10802	Multivoice conversational recordings by native speakers, combined with color filmstrips. For use with any textbook.
Polaroid Corporation Technical Sales Department Cambridge 39, Massachusetts	Polaroid Land Transparency Film
Prakken Publications, Inc. 416 Longshore Drive Ann Arbor, Michigan 48107	Cartoon booklets in simple French with tape recordings of the booklets made by a Paris theater company.
Scholastic Magazines 902 Sylvan Avenue Englewood Cliffs, N. J. 07632	Graded monthly magazines in French, German, Spanish, and Russian; monthly tape for each available.

Company	Materials
Technicolor Corporation P. O. Box 517, Dept. AV 106 Costa Mesa, California 92627	Small Instant Movie Projector; a cartridge type loading for single-concept and cartoon films.
United World Films 221 Park Avenue South New York, New York 10003	Films from many countries.
Viewlex Incorporated 4 Broadway Holbrook, L. I., New York	Filmstrip Previewers; new auto-feed filmstrip projectors; self contained with rear projection screen; also has a sound filmstrip projector (Table-Talk model and 12-inch records).
Visual Aids Service (many state universities)	Low rental of films, etc.
The Voicespondence Club Noel, Virginia 23047	"Visits" through exchange tapes; annual membership $3.00.
Wible Language Institute Dept. C Allentown, Pennsylvania	Distributes variety of tapes, films filmstrips, records, and books in 250 languages.
Wilson Corporation 546 West 119th Street Chicago, Illinois 60628	Rear-view movie projector permits complete use of films and filmstrips in undarkened rooms.
World Pen Pals Foreign Language Department University of Minnesota St. Paul, Minnesota	Names of students for letter exchange.

Conclusion

In conclusion, I believe foreign language teaching offers the greatest possible challenge to a responsible teacher since languages must be taught imaginatively. Many subjects offer intellectual stimulation, but few appeal to the imagination. In the field of foreign language teaching, imagination is indispensable. An imaginative teacher, using good audiovisual aids, can teach a foreign language effectively and pleasurably to almost anyone.

THE HOMEBOUND TEACHER AS COORDINATOR

Kathryn E. Lilliston

There is a growing recognition on the part of community school leaders of the educational needs of children with handicaps or physical limitations. As a result, many new educational programs are being developed. Two concepts appear basic to any planning of educational programs for children so classified: first, there should be the realization that the child with a physical disability is a child, an individual human being with the same basic needs as the so-called normal child. Among these needs are the demands for parental care, affection, love, and security; secondly, the child should be educated as close to home as possible and still have the special programs provided that are necessary to enable him to live with his physical limitations.

Assuming the goals for educating children with physical handicaps are in accord with those for normal children, it must be accepted that these goals are not attained in the same way. Students with physical or emotional learning disabilities require procedures and adaptations of instructional programs over and above those which are provided for other students. It is special education, or special services, which is incorporated into the school program for the adaptation of a highly individualized instructional plan. The program which has been termed the homebound hospital or physically limited service is but one type of special service designed to meet the needs of children who differ from the normal classroom students. These children participating with such a program are, if only involved for a temporary time, children with individual differences created by physical disorders, emotional, or social maladjustments. It is with these students that the factors and elements of communication are to be discussed; it is with these homebound teachers that the program has been analyzed.

Exceptional Children and Youth (Department of Education, 1964) offers a concise explanation of home instructional programs:

> Home Instruction is individualized instruction for children who are confined to their homes due to some condition which renders them physically unable to attend school even with the help of transportation but who have sufficient intelligence to profit from this individualized instruction. Excluded from this category is the child who is mentally retarded but not physically handicapped and the child whose only handicap is speech, vision, or hearing. Children with communicable diseases cannot be enrolled on a home instruction program.

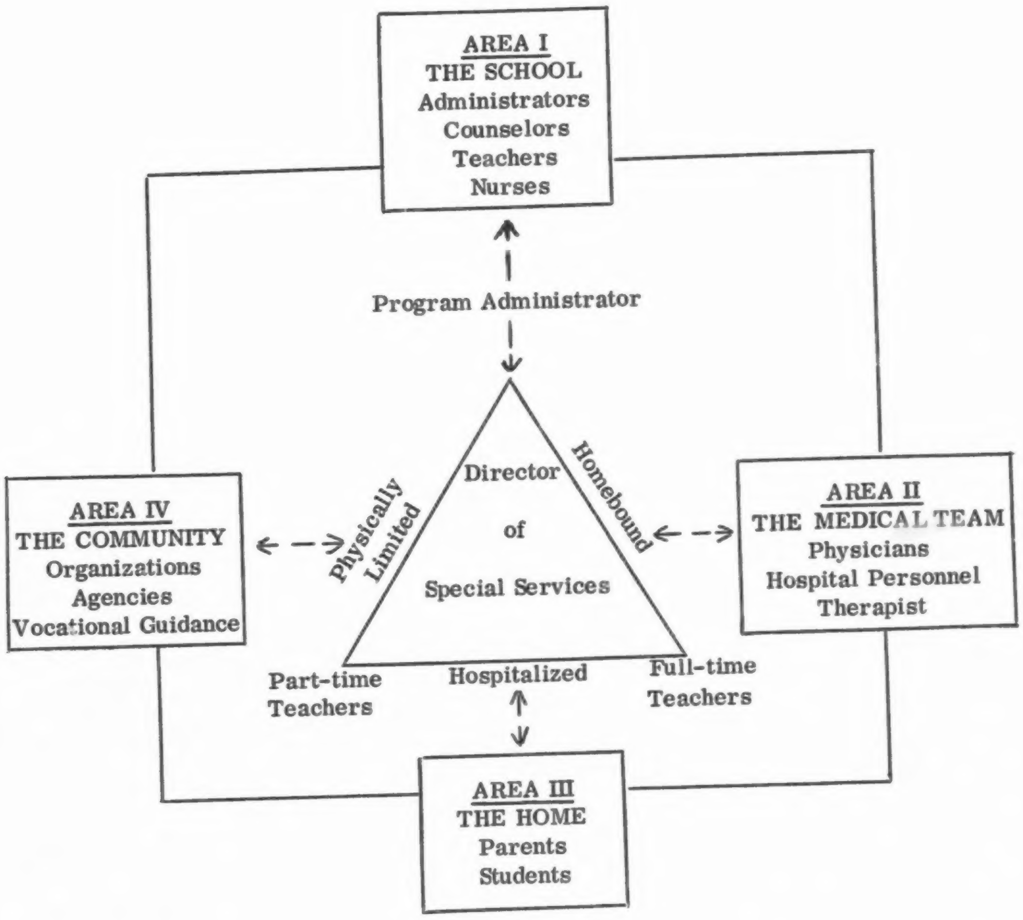
The legal authority for establishing special education programs, including the homebound, is found with state legislation through laws implemented by administrative decisions. The school districts through their school boards must, in turn, adopt these specific programs. The homebound program, or the program for the physically limited, for the Shawnee Mission School District was adopted by the school board in June, 1965. This school district includes nine junior high schools and four senior high schools encompassing a student population of over 17,000 (1966 Directory, Johnson County Public Schools).

The homebound program represents an extension of the academic program for a child who, because of a long illness, has a severe physical disability or emotional maladjustment, is unable to attend school, even a special school. The home teacher functions in close cooperation with the student's school and works to correlate his academic program with that of the classroom. The homebound student follows each unit of study, completes required assignments, and takes final examinations, just as his classmate does in the regular school program.

Factors involving matters of coordination in a homebound hospital teaching program are varied. Table 1 illustrates the areas or phases of coordination involved. Since coordination represents a process by which departments and phases are related, it is necessary to analyze what channels are available and involved in a program, how extensively they are used, and how important and essential they are to the complete execution of the program.

Table 1

Projection of Coordination Areas with a Homebound, Hospitalized, Physically Limited Program


AREA I
THE SCHOOL
Administrators
Counselors
Teachers
Nurses
Program Administrator
Director
of
Special Services
Homebound
Physically Limited
Hospitalized
AREA II
THE MEDICAL TEAM
Physicians
Hospital Personnel
Therapist
AREA IV
THE COMMUNITY
Organizations
Agencies
Vocational Guidance
Part-time Teachers
Full-time Teachers
AREA III
THE HOME
Parents
Students

The Director of Special Services or Director of Special Education in a school district serves as the head administrator for a program for the physically limited. Employment of full time directors, contracting homebound teachers, and the hiring of part time teachers will vary according to school districts. The interpretation of the four phases as presented is based on the program as established in the Shawnee Mission High School District. This program is conducted with a full time instructor hired to combine administrative duties with teaching.

Phase I: The School

The school represents the first phase of study in the matter of coordination. This is a wide range area covering communication situations involving school administrators, the school nurse, the student's counselor, and the regularly assigned classroom teacher. Within the structure of these communication patterns are found many determining elements of success or failure.

The distribution of complete, proper, and concise information regarding all qualifications, benefits, and complications of the program offered is essential. Although the school administrator conducting the duties of principal or vice principal might ask to be informed, the essence of information must be correlated with the duties of the school counselor. The counselor is the one individual directly at the school who contacts the student regarding enrollment, registration for classes, academic credit earned for the fulfillment of graduation requirements, and school conduct. The counselor is the school authority for contact with the parent. He is the one who should be most alert to the student's individual ability, his individual differences, and the student's individual needs. The counselor's responsibilities in relationship to the homebound program seem singularly demanding; without his interest, cooperation, and guidance, the program may be structurally weak.

The matters of homebound referrals or requests should be discussed. At this point, the role of the school nurse proves beneficial. In accordance with state requirements, school attendance records must be maintained effectively. It is usually the responsibility of the school nurse to handle this technicality. A successful program of homebound requests can be established by the school nurse notifying a student's counselor in the case of any absence that extends over a determined period of time. The counselor follows through with a call to the homebound office. The homebound consultant initiates contact with the home. This interaction and coordination is the foundation for the success or failure of the program.

The communication between the counselor and the director of the program for the physically limited follows: the student, classroom schedule, listing of regularly assigned classroom teachers, psychological evaluation, and commentaries regarding the individual's academic record and progress are relayed. The counselor can often be most helpful in securing classroom teachers who are willing and interested in doing part time homebound teaching.

In the area of school communication, mention should be made of the necessity to successfully coordinate with the regularly assigned classroom teacher. Classroom teachers must be notified of the student's assignment to homebound instruction; in cases of short term illnesses or accidents when the student returns to class within the semester, direct contact is required for all assignments, testing, and correlation of grading. The classroom teacher may need to be reminded that the student is homebound because of the severity of his physical limitations; his program may need to be modified. When the student returns to the classroom, the desirable situation is to have him up-to-date with assignments. This cannot always be accomplished, and it frequently calls for skillful homebound interpretation and instruction of classroom materials.

Another area of contact in association with school personnel involves the securing of teachers for part time homebound employment. Although various programs in other areas discourage the use of the regular classroom teacher, it is considered successful within the Shawnee Mission High School District, particularly in the studies of laboratory sciences. The regular classroom teacher is most familiar with the complete curriculum for the course of study assigned. In many instances, classroom materials, equipment and supplies, and laboratory equipment are readily available to him. In many instances, the classroom teacher has already encountered the student and a rapport has been established. The homebound consultant spends considerable time in the securement, assignment, and contiguity of the part time employed homebound teacher. It is within the school coordination area that the homebound consultant may meet critical issues.

Phase II: The Medical Team

The significance of the coordination factor involving the medical area can best be illustrated by the following requirement which is found governing all homebound applications:

"Homebound children" means children who:

- (a) are at least six but under twenty-one years of age
- (b) are educable, to be determined by standards for educability established by the division
- (c) because of illness or other handicap cannot attend regular classes in a public school, and
- (d) have been certified by their respective attending physicians as being in such condition that they must remain out of their regular school classes and as being physically able to receive instruction in the home or hospital or both (Throckmorton, 1963).

The legal authorization of the homebound student assignment depends primarily on the signature of the physician confirming the physical disability. It is sometimes necessary to follow through with direct contact with the medical team. When a student returns to school on a part time basis, it will be the doctor's recommendation that establishes the schedule. When a student is instructed within the confines of the hospital, contact with both medical staff and hospital personnel occurs.

Phase III: The Home

Phase III is the channel to the home, the direct route to parent and student. The channel of communication with a homebound program varies. The initial interview is conducted usually after telephone communications have established an explanation of the program, a general discussion of the condition of the child, and an initial appointment time. It should be most carefully and cautiously remembered that upon entering a home, the visitor should recognize that he is entering into a private dominion, the place which no outsider enters except by its occupant's consent. Successful communication to parent and student alike, coordinating the school with the home, must be achieved if subsequent visits for instruction are to prove successful. The teacher, as coordinator, assumes a commutative role, remaining professional yet friendly, informative but not authoritative, and knowledgeable but not assuming unassigned responsibilities. The teacher is not a counselor, not a therapist, not a psychologist. These roles the teacher must carefully guard against assuming.

It is imperative that the parent understand all points of concern involving a homebound teaching program. The teacher-home situation often provides an opportunity to help parents better understand, analyze, and appreciate the school program.

When the homebound teacher is exposed to the privacy of a home, it is imperative that all communication be considered confidential. The teacher occasionally discovers certain inevitable environmental factors in a child's life and must accept and do the best that is possible in spite of them. The homebound teacher is fortunate in being exposed to the four areas of the child's living—physical, social, emotional, and intellectual.

Not to be overlooked in the home communication and coordination phase is the student, the core of the program itself. The student learns from the initial interview that there will be a continuity of basic academic learnings; in fact, he will soon realize that there is actually an opportunity for strengthening of educational skills because of the advantages of a one-to-one teacher student relationship. He is assured that the educational program will be tailored to conform with his own medical treatment, his physical or emotional disabilities, and when necessary, his hospital schedules. All of this fosters security for the student, supplementing physical recovery and sound mental health.

The homebound instructor must meet the challenge of each individual student, sponsoring flexible planning, sensitivity to mental alacrity, and above all else being resourceful, for the demands of each student will vary. A successful teacher will conduct the academic progress with thorough planning, preparation, and constant coordination. Continual reminder of individual differences will shape the program.

> Probably more provocative than any other problem of issue faced up to this point in the treatment of teaching method is the challenge posed to education by the similarity and differences of students. Each young person shares much in common with his peers; social interests, dress, mores, and gradual withdrawal from adults—to name just a few. This act of sharing, far from a passive process, seems to be distinguished by a demanding compulsiveness which drives youth together. The adult, as he moves toward maturing goals, gravitates toward others as an accepted part of his life cycle. The adolescent, in contrast, literally grasps for the companionship of associates of his age as if propelled to do so by an almost irresistible outside force. The "Pack," in a sense, serves as a protective insulation pending the time when he will be able to attack the problems of life more independently (Inlow, 1963).

This commentary is included because it so emphatically implies one of the inherent situations the homebound teacher faces when working with students of high school age. The homebound student removed from the classroom does not respond in the same manner as the student in the classroom surrounded by his fellow classmates. The spirit of competition is not in existence in the home. Although the pressures are lessened with the homebound instruction, the above average student profits from competition and pressures to the extent that he sometimes rejects the individualized instruction. On the other hand, the student who is receiving instruction at home because of emotional maladjustment to school, frequently reports that he is well-satisfied with the homebound program. The slow learner, or the student with learning disabilities, is undoubtedly the student who can be helped to the fullest. If successful evaluation is carefully carried out, frequently a slow learning student can do much better when taught in the home. Study habits and approaches to learning problems can sometimes be instigated that will carry over with the student on his return to school. The homebound teacher can feedback much to the school.

The duties of an instructor for the physically limited need not be confined to just homebound teaching. The student who is enrolled part time may request services for testing to be given at home, additional equipment for individual assignments, and confirming communication with his teachers relative to his physical progress and condition. The extension of the services offered would lead into a discussion of the final phase of coordination.

Phase IV: The Community

The discussion of the elements of communication and coordination perhaps resolve themselves into one complete cycle. Inasmuch as it is the community in a sense that makes demands upon schools for necessary programs, then so might the needs of the students for certain opportunities provided within the community complete the cycle.

The homebound instructor, the person who works closest with the student who has physical limitations, will often encounter opportunities to cooperate with community agencies. Continual contact with the organizations and agencies providing vocational rehabilitation is invaluable. A knowledge of existing agencies offering services for crippling conditions, personal counseling, or information centers show resourcefulness. It is discouraging to encounter the lack of contact between school and home when the student is out of school for an extended period. It is sometimes more than discouraging to recognize the lack of empathy with both teachers and other students for the homebound child.

The factors of coordination are most challenging here. A few suggestions for effective methods of developing understanding in the community and school are given:

1. Information teams representative of all interested groups.
2. A speaker's bureau to go before all community organizations.
3. The area press, radio, and television.
4. Distribution of brochures prepared by school personnel.
5. Visits to programs in special education.
6. Utilization of community resource people.
7. Availability of library materials for persons with special needs.
8. Use of films, tape recordings, and displays
   (Department of Public Instruction, 1967.)

Conclusions

The elements of coordination involving a program for the physically limited are endless. Only four phases have been discussed. The employed teacher assumes the responsibility of educational planning in the establishment of the programs for both long term and short term cases. This includes making specific daily schedules, establishing the program in the best interests of the pupils, keeping in agreement with administrators and parents. The teacher must be able to interpret medical information, recognizing the nature and characteristics of the student's disabilities; and must be able to modify instructional assignments, and make final recommendations concerning the child's ability or inability to perform. The homebound instructor must keep close contact with the school where the student is enrolled; arrangements are made to secure the necessary books and supplies. Above all else the teacher should meet the child's educational needs through four phases: (a) physical well-being, (b) social adjustment, (c) emotional balance, and (d) academic growth. The homebound teacher must be capable of presenting academic material in such a way that the student remains motivated, working to his fullest ability. The teacher should be able to evaluate the child's progress educationally, socially, and emotionally. All of these sentences represent endless challenges that the homebound teacher faces. It seems too great a challenge for one individual. One individual could not successfully even attempt such goals without the key, coordination. It is evident that when coordination is so involved with so many areas or phases, weaknesses can arise almost without detection. Continual alertness, sensitivity to all circumstances, courtesy, cooperation, and successful communication will all be the essentials of the effective program.

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HOME AND HOSPITAL INSTRUCTION: THE TEACHER — AUDIOVISUAL AIDS — THE STUDENT

Jack K. Robertson

The experience of being a shut-in, cut off from the normal associations with his peer group, is not the easiest thing for a child to take. Days tend to drag interminably onward without challenge or purpose. The infrequent contacts with the home teacher, when such service is provided, afford only a partial sense of the reality of the school, its personality, and grade activity. Even with the helpful guidance of the visiting teacher, the child more or less sets his own pace in accomplishing the assigned work. He has only limited opportunity for social contacts outside of family.

School-to-Home Telephone

Because of these reasons, my first recommendation for the homebound or hospitalized student is the school-to-home telephone system. This system provides a major scholastic and social benefit for the homebound child. It makes him aware that his progress is in accord with that of the children in the regular classroom situations. It provides daily contact with the real world of the school and permits him to develop an understanding of the activities which are being enjoyed by other children of the same age. This daily social contact with his teacher and his classmates provides the incentive for high morale.

The social contacts of the class group are an invaluable part of the learning situation for the shut-in child, as they are for all children. The opportunity to communicate directly with classmates afforded by the school-to-home method is something no visiting teacher, no matter how expert, can bring into the home on his occasional visits. How can a child confined to home or hospital by physical disability or prolonged illness derive maximum benefits from modern educational methods and facilities? The problem has long challenged the teaching profession.

Experience affirms that the home teacher remains the vital link between school and child, but today the effectiveness of his efforts can be greatly augmented by a technique that enables the homebound pupil to participate in classroom activity throughout the school day. This would bring about a sense of belonging; a feeling we all must have in order to be properly motivated.

Since this technique for a two way conversation from bedside to classroom was developed over a dozen years ago, several thousand homebound and hospitalized students at the elementary, secondary, and college levels have received part or all of their education by telephone. The method is now being used successfully in more than 46 states and territories. Experience indicates that the method can be used for any child who is capable of engaging in the regular home instruction program, consisting of a few hours per week of tutoring plus the necessary hours of self-study. Doctors surveyed by the Iowa Department of Public Instruction, as reported in the July 10, 1954, issue of the AMA Journal, were almost unanimous in recognizing the method's psychological and therapeutic advantages. Many stated that it had actually hastened recovery by encouraging social and educational interests. Fears that the method might be overstimulating or overtiring, particularly in cardiac cases, seem to be unfounded.

The Homebound Teacher

Regardless of what approach or method is used, a good homebound teacher should have the following qualifications:

1. Sincere interest in the welfare of each student.

2. A warm friendly personality.
3. Creativeness.
4. A lively imagination.
5. Ability to adapt to a variety of situations.
6. Ability to get along well with others.
7. A keen intelligence.
8. A wholesome interest in many things.
9. Skill in using appropriate teaching techniques.
10. Resourcefulness.
11. Patience.
12. A sense of humor.
13. Good physical and mental health.

The child who is ill or disabled has a special need for experiences that are of special interest and conducive to the development of new interest, and yet his circumstances may preclude the use of many of the instructional aids normally available. His teacher, therefore, must be highly resourceful in developing the materials required. The teacher must be sensitive to the child's readiness for a given activity and be prepared to shift instruction as necessary. For example, a painful treatment may drive from the child's mind all thoughts of school work, and at that time he may need a story, some music, an art experience, or just a chance to talk.

The teacher providing home instruction must work effectively with all types of parents in all kinds of settings, and with school personnel at various levels and in many different capacities. He has a strategic opportunity to build good relationships between home and school as well as among agencies in the community. The teacher providing hospital instruction must work in situations where the schedules of many other people take precedence over his and where teaching conditions may be far from ideal. He must keep a flexible schedule and always allow for the unexpected.

The teacher who works in the home has much more direct contact with the parents and other members of the family and should therefore be especially capable of understanding child-family relationships. For many parents the child sickness or handicap means increased financial responsibility, extra physical strain, and changes in their way of living that require a number of social and emotional adjustments. The teacher is in a good position to be helpful to the parents in making these adjustments. For the child, confinement because of illness or disability means being away from the experiences that non-handicapped children are having in the regular school and also means trying to cope with problems of convalescence that may be difficult to handle without assistance. The teacher will help the child to make as much progress in his school work as his limitations will allow and to engage in worthwhile leisure activity. The selection of equipment and materials for use in the home and hospital instructional program is a responsibility that should rest with the teacher since he is the one who knows the physical conditions in which he is working and the needs of the children he is instructing.

In selecting the equipment needed, the teacher should consider the conditions under which it will be used. Equipment that is to be used in a hospital classroom can be both larger and less maneuverable than that used in wards. Equipment that is used in providing home instruction must be of such size and weight that it can be easily handled and transported by the teacher.

When the teacher gives instruction in hospital wards, he will likely find that a cart or wagon designed for storing and transporting equipment and supplies is a valuable asset. Through the use of such a wagon, instructional materials can be readily stored, easily transported, kept conveniently available for use as needed, and returned in the regular place of storage with little loss of time. The teacher may also find use for the wagon in the hospital classroom.

Chalkboards and felt boards mounted on standards that are equipped with casters can be used to advantage in the hospital program. The height of each board should be adjustable so that the board can be raised above the bed or otherwise adjusted to enable the child to use it conveniently. The chalkboard may have cork on the reverse side for use as a bulletin board. Hooks placed at the top of the board are convenient for hanging maps and charts. Felt boards can be used at any grade level from nursery through high school. They serve many purposes in the instructional program. An example would be illustrating a story that is being told. The pieces used in the presentations are generally small enough to be kept in labeled envelopes or small boxes and can be easily carried about by the teacher.

Even though the chalkboard and felt board are more conveniently used in the hospital, they can also be used in the home. They probably should be smaller and lighter for home use.

Projectors for showing moving pictures can be used to advantage in certain instances, especially those wherein instruction is provided in the hospital for groups of children. Slides and filmstrips can be used conveniently both in home and hospital instruction since the projectors are generally small and light of weight. There are several modern instruments that show three-dimensional pictures. The old stereoscope, once familiar to homes and community libraries, is still a highly effective device. They are especially good in storytelling.

The reverse screen type of projector can be used in a lighted room. This is set up at the foot of the bed and turned so that it faces the patient; a screen is placed between the patient and the machine, and the picture is projected onto the reverse side of the screen in such a way that it is properly seen on the front side. The ceiling projector, which uses microfilm reproductions of books, cartoons, magazines, and other materials, is an aid to instruction when children are in body casts or traction and cannot sit up. It affords them opportunity for leisure time reading and is particularly helpful to children who are unable to hold a book in their hands.

Small portable radios should be available for use as they are needed. In instances where television sets are available, plans should be made for their use in the program if educational telecasts are received in the area during the hours when instruction is given. The teacher knows that radio and television programs can be used to advantage in supplementing and enriching the instructional program. Teachers' guides and kits that contain directional materials and that accompany lessons televised or broadcast are available from TV and radio stations. Local stations should be consulted for information.

The last audio aid I would like to mention is the tape recorder. The tape recorder, except for use in speech work, has very seldom made an appearance in the teaching of English to the homebound or hospitalized student. In the problem of grammar usage, teaching the traditional approach has been to rely heavily on the workbook type exercise. The student corrects or fills in the appropriate form, reading the question and writing the answer. However, the problem is only superficially handled. The student may write the correct form, but speak the incorrect one. For he hears the incorrect expression all around him in both peer group and adult relationships. He rarely hears himself use the right expressions. A reading approach, therefore, does not handle the problem of sound. The student knows what the correct element looks like. The grammar book with its artificialities admonishes him; he seldom knows what the right elements sound like. Here the usage tape is applicable. The class or individual has the opportunity to hear others say the correct form. More importantly, he has the chance to weigh and taste the sound of correctness as he uses his own voice to teach himself. He naturally sees the word in "his mind's eye;" he hears it in "his mind's ear." The more active the student, the more he learns.

Too many poor spellers and readers have not learned to associate the word on the printed page and the word he hears. The language of sound is not the language of print to him. An approach that will weld these two worlds together will be of immense value to the struggling student. The presently conducted spelling experiment is attempting to merge the eye, the ear, the vocal chords, the hands into an effective awareness of the sight, sound, form, and feel of the word being attacked. The use of tapes will give the individual student opportunities for self work and self improvement. If the spelling tapes are composed of words students habitually misuse, then the materials can be of great value in solving the problem of the individual and the group. The approach of using all the senses but that of smell brings into play the entire person rather than only part of the person. Literature, too, has a role in the use of the tape recorder. Many are the poems, the stories, and essays that the teacher may want to bring into use for enjoyment, study, enrichment, and a variety of other reasons. Many excellent items are not available on record or are surrounded by materials on records for which the teacher has no use. A tape can be organized on a thematic approach, a literary type approach, or in any way the teacher sees fit, with materials that the teacher has total control over. The individual teacher, the members of the department, and the students themselves can all contribute material to the taping process. Since poetry and drama are meant to be heard and not read, the use of tapes can fulfill the basic purpose of the literary selection. In addition, because we hear much more than we read during the course of our lives, definite work towards improving listening skills—too often neglected—can be accomplished. The many excellent pieces of contemporary writing to be found in newspapers, such as editorials, and magazines can be taped for temporary use in the classroom and then reused or erased; a feature impossible with records. Excerpts from short stories, novels, and long poems can readily be used as a bait to reading the entire selection.

The same technique should be useful for creative writing—playing part of a selection and letting the student finish the story. Then, allowing him to hear the contrast between his words and the verbal melody of the author should provide a very valuable exercise and demonstration of the oft neglected music of words. Because the English course pattern is so organized that a great deal of work is repetition, perhaps because of the eye approach rather than the ear approach, the use of tapes should provide a great assistance to the English teacher. Because a tape is playable at least three thousand times without diminution of quality, and since repairing is exceedingly easy, the cost of each program particularly if homemade is practically none.

I know of no other audiovisual device, and this includes the textbook itself, that provides as important a tool in the hands of an English teacher, that offers such an enormous potential to class and individual instruction. The uses of the tape records are limited only by the imagination of the individuals using them. The tape recorder should enable the educator to teach more, better, and faster.

The policy for selection of materials to be used in the home and hospital instruction should be much the same as that used for equipment, namely, the teacher should consider the conditions under which the materials will be used. The teacher must prepare and select carefully the kinds of materials he can use to best advantage for the greatest number of children. He must consider the physical ability of his pupils to handle materials. For example, books of small size and of light weight are handled much more easily than large, heavy books. Sections of chapters of books may be cut out of expendable volumes and fastened together with staples or loose leaf rings in order to facilitate handling. For young children, a single page may be extracted from a book and mounted on cardboard.

Children's workbooks are invaluable to home and hospital teaching. The materials for them must be carefully chosen and the organization of each workbook well planned. They may be used to give children drill and to help them employ good study habits.

It is difficult for some children to examine pictures in books because of the usual stiffness of book bindings and the tendency of most book pages to "flip." Pictures may be extracted from the contents of the books that are no longer useful, mounted on cardboard and protected with cellophane coverings. This way the picture may be examined with ease.

The homebound teacher should do the following:

1. The teacher of the homebound children should recognize that the instructional program should correlate with the program of the child's peers in regular school. Continuous contact with the child's class group should be encouraged whenever possible. The classroom and homeroom teachers, the psychologist, and the home instruction teacher should jointly plan the child's total educational program.

2. The home instruction teacher should work closely with the parent who may need assistance in creating a good learning environment in the home. The parents, for example, must assume responsibility for providing proper lighting and temperature in the child's room, care of instructional materials, an atmosphere of privacy and quiet, and a daily study and work schedule for the child.

3. Audiovisual equipment such as films, slides, record players, radios, tape recorders, and etc. are valuable teaching aids and should be made available to the teacher by the child's school.

4. The teacher should keep accurate and current records concerning time spent in teaching the child and the child's progress, together with recommendations for future considerations in the educational program of the child.

5. Reports to parents should be sent in the same form and at the same time as those in the regular class.

6. Attendance reports and achievement reports should be submitted to the proper school administrator monthly, annually, at the termination of the home instruction period, or as the administrator may require.

7. Books, supplies, and equipment borrowed from the school should be returned to the proper administrator when the home instruction is terminated.

8. When the homebound child is able to return to school, the home teacher should serve as an effective link in the orientation of the child to the regular school program.

Children with serious speech impediments and communication disorders are handicapped and will be deprived of experience necessary for maturation unless their educational program provides rich opportunities for language development and use. Talking together each day is essential for these children; it is also necessary preparation for reading. Daily conversation can be facilitated by the use of conversation boards on which may be collected pictures of the child's home, of members of the family, of the school, or of the familiar subjects the child may wish to discuss. If the child can point to pictures as he talks, the teacher and other members of the class will be better able to understand his verbal contribution. Such success will encourage the child to engage in more conversation.

As these children mature, experience in reading will begin. Because their progress may be hampered by limitations such as those mentioned, these handicapped children should be given special training in visual and auditory discrimination, recognition of shapes, concentration on specific objects and auditory and visual memory. Many of those children will also have difficulty in remembering sounds, in screening out extra noises in the room, and in distinguishing foreground and background. Games and supplementary aids for development of sensory skills should be provided for these children.

Obviously, for these children, learning to read is a more involved and complex process than for normal children. These children can be encouraged to develop a love for reading by reading for pleasure as well as for information if a library with supplementary reading material is available. This reading material should represent all grade levels.

Learning to write is impossible for some physically handicapped children; it is awkward and difficult for many. To write legibly calls for a degree of small muscle development which many of these children have not yet attained. In some cases, it is more feasible to teach these children to type than to write.

With help from the homebound teacher, children are helped to achieve skill in writing by larger pencils and paper with widely spaced lines. In the process of learning, these children will also need a series of experiences specially planned to develop eye-hand coordination, spatial relationships, visual perception, and memory for preceding work.

The acquisition of instructional materials and equipment does not guarantee a valid learning situation. Boys and girls may benefit from the utilization of electromechanical aids in their instructional program only to the extent that the teacher has planned a sequential mastery of the basic skills. The teacher must possess the prognostic and diagnostic competence that will determine what technique and what equipment will best remedy the skill disability of a particular pupil at a given time in his development.

INTERNATIONAL ASPECTS OF SPECIAL EDUCATION

NEW DEVELOPMENTS IN INTERNATIONAL ORGANIZATIONS IN THE FIELD OF MENTAL RETARDATION

Rosemary F. Dybwad

During the past eight years we have witnessed a substantial number of international congresses and seminars specifically devoted to the problems of mental retardation (Portland, Maine, 1959; London, 1960 and 1961; Vienna, 1962; Brussels, 1963; Copenhagen, 1964; San Juan, Puerto Rico, 1965; Frankfurt, Paris, Copenhagen, Dublin, and London, 1966), and numerous other international meetings in related fields have included this subject matter. The proceedings of these meetings bear witness to the fact that interest in the problem of the mentally retarded and their families has rapidly spread throughout the world and has become a subject for scientific inquiry and professional concern, as well as a challenge for public policy. It is the purpose of this paper to show how these remarkable developments are reflected in the functioning of governmental and voluntary international organizations.

The United Nations Organization, since its founding 20 years ago, has grown at a pace that would hardly have been predicted, even by its most ardent supporters. Along with this growth has come an increasing complexity of the constituent parts of the organization, and in that respect, one is reminded of the maze of federal agencies in Washington. Originally, FAO, ILO, UNESCO, WHO, UNICEF and the UN Bureau of Social Affairs all had their distinctive and specialized functions. However, with a greater outreach and a more comprehensive approach to their mission, one can observe a steady increase in the overlapping and interdependence of these programs. Thus today, mental retardation is moving into the orbit of the following UN organizations:

1. The Bureau of Social Affairs of the Department of Economic and Social Affairs at UN Headquarters in New York has tackled mental retardation primarily through its Rehabilitation Unit, which for the past several years has been directed by a distinguished special educator and psychologist from Poland, Dr. Aleksander Hulek. Not only has the unit provided UN technical assistance experts to several countries and arranged for various types of training fellowships, but mental retardation has also been specifically included in its general seminars and workshops.

2. The World Health Organization in Geneva has been active mainly through its Mental Health Unit which, in September, 1967, called its second Expert Committee on Mental Retardation. One assignment of this committee was the updating of the excellent report, "The Mentally Subnormal Child," which was produced by the first Expert Committee 14 years ago in 1953. However, other WHO Units such as those on Genetics, Maternal and Child Health, and Epidemiology, are also coming more face to face with mental retardation.

3. From its beginning, the International Labor Office has emphasized its role in rehabilitation, and its official policies refer to the physically and mentally handicapped alike. Significantly, ILO has actively supported the establishment of work-study programs in the public school and has emphasized the need for adequate specialized schooling for the handicapped, including the mentally retarded.

4. Unfortunately, UNESCO not only has shown no corresponding interest in the problem of mental retardation, but this neglect has extended to the total field of special education. Two years ago, the Scandinavian countries pushed a

resolution through the UNESCO General Assembly in the hope of focusing attention on this neglect of the more than 10 percent of school youth who are handicapped, but from a practical viewpoint, this resolution has not been implemented. There is an urgent need for The Council for Exceptional Children to ally itself with other organizations in the USA and Canada interested in the handicapped so that pressure can be brought to bear on the official delegations to UNESCO, because so far they have not been inclined to provide the vigorous support needed for implementation of the Scandinavian resolution. Here is a clear example of the inner workings of the United Nations and its specialized agencies: no matter how interested UN staff may be in a particular program introduced by resolution, its implementation depends on the budgeting process, and this is where active support from the large contributing nations is imperative.

5. UNICEF, until a few years ago, had (as was expressed in its name) an "emergency" mission. To be sure, there are still vast regions in Asia, Africa, and South America where disease and starvation are rampant among the child population and only the barest emergency aid can be considered. But elsewhere, sufficient progress has been achieved to make possible a wider range of programming to meet the needs of children for more specialized services. Thus UNICEF has begun to undertake service projects for handicapped children, along with training of specialized personnel.

6. By the same token, a new dimension has been added to the work of the Food and Agricultural Organization. This stems from recent findings regarding the role of inadequate nutrition in the genesis of childhood disabilities, among them mental retardation. As yet, the scientific findings are still in an early stage; programming, on the other hand, is still overwhelmingly directed at starvation regions, but to the extent that these gross needs are increasingly met, the more specialized programs can be tackled. We need to be mindful that the UN specialized agencies were not founded as relief organizations for the benefit of poor and backward countries, but as an organism for worldwide interchange of knowledge and know how among all nations.

It hardly needs saying that within the total complex of world needs and UN services, the problems of mentally and physically handicapped children can play only a very minor role. It is for that very reason that coordination of the services of these various agencies is of great importance. The vehicle presently available for such coordination is the annual Ad Hoc Interagency Meeting on Rehabilitation of the Disabled, which, in recent years, has included the problem of mental retardation in its agenda. The major strength of the Ad Hoc Meeting lies in the opportunity it affords for direct interchange among the staffs of the various UN agencies concerned with problems of the handicapped. The effectiveness of its work, limited as it is in this initial stage, has been greatly enhanced by the close collaboration with the international voluntary agencies in the field. These voluntary agencies have set up a corresponding coordinating body known as the Conference of World Organizations Interested in the Handicapped (CWOIH). CWOIH's office, originally in New York, has for the past two years been in Paris. Its membership is limited to organizations which are accredited as Non-Governmental Organizations (NGO's) to one or more of the UN agencies. Many of the NGO's are concerned with just one particular disability and have only limited and indirect connection with the problem of mental retardation or none at all.

The one which probably has included active concern for the mentally retarded over the longest period of time is the International Union for Child Welfare (IUCW). The Save the Children International Fund, which in 1946 merged with the International Association for the Promotion of Child Welfare to form the IUCW, originated the Declaration of the Rights of the Child. This was adopted by the League of Nations and subsequently formed the basis for a similar Declaration put forth by the United Nations. One of the provisions of this Declaration referred to the right of the mentally backward child. Through the years, in its congresses and publications, and most recently through a three year project in international consultation, the IUCW has called attention to the needs of the mentally retarded child and his family.

The World Federation for Mental Health, although primarily interested in mental illness and emotional problems, has provided some coverage of the problem of mental retardation in its congresses and annual meetings.

The International Society for Rehabilitation of the Disabled (ISRD) has limited itself largely to the physically handicapped, but in its International Seminars on Special Education (the first of which was convened in 1960), special education of the mentally retarded has received full attention. At this time, the ISRD is the only worldwide body sponsoring, on a continuing basis, international seminars on special education, planned by a special standing committee of the society. Tribute must be paid to ISRD for its active participation in efforts to get UNESCO to give adequate attention to programs for the handicapped. Another ISRD-sponsored, special committee which includes the problem of mental retardation is the World Commission on Cerebral Palsy.

The first worldwide voluntary organization specifically devoted to the problem of mental retardation is the International League of Societies for the Mentally Handicapped, established in 1962 as successor to the European League of Societies founded two years earlier. The league presently has member associations in 34 countries, reaching into all five continents. The member associations represent largely the so-called parent movement, although most of the organizations include a considerable segment of professional workers in the field, and practically all of them have a substantial membership of interested citizens. The league maintains its headquarters office in Brussels; publishes a newsletter in English, French, German, and Spanish editions; and organizes international congresses and symposia. The 1963 congress focussed on education and social integrations. The theme of the 1966 congress, held at UNESCO Headquarters in Paris, was "Stress on Families of the Mentally Handicapped," and attracted 1000 participants from 33 countries. The league's next Congress is to be held in 1968 in Jerusalem, proposed theme being "From Charity to Right." A Symposium on "Sheltered Employment for the Moderately and Severely Retarded" was sponsored by the league in 1966 in Frankfurt, and in June of this year a Symposium on "Legal Aspects of Mental Retardation" has been scheduled for Stockholm.

In 1964 the International League of Societies for the Mentally Handicapped was joined by a second international organization in its field, the International Association for the Scientific Study of Mental Deficiency (IASSMD). It was officially established during the International Congress on the Scientific Study of Mental Retardation in Copenhagen, following several years of preparatory work and sparked largely by the interest of the American Association on Mental Deficiency and professional groups in Great Britain. The IASSMD will hold its first Congress in September, 1967, at the University of Montpellier, France. This association is interdisciplinary in character and is encouraging formation of interdisciplinary national committees or societies. A newsletter published in English, French, and German serves as a medium of communication between the national groups. Scientists from 20 countries serve on the council of the IASSMD.

From the beginning there has been close collaboration between these two new organizations which are complementary in their purpose, the IASSMD, with its scientific orientation, and the league, as a citizen action group. There is definite and most desirable overlapping of membership, as well as leadership. The secretary general of the League is a member of the IASSMD's council and several members of the league's executive council are members of professional groups which belong to the IASSMD. In

1966, the league, the IASSMD, and the IUCW established the Joint Commission on International Aspects of Mental Retardation to facilitate cooperative action in areas of mutual interest. One example of such joint endeavor is a project to produce an international directory of mental retardation resources; another is joint sponsorship of an International Committee on Architectural Planning in Mental Retardation.

Obviously, the foregoing enumeration of organizations active in the field of mental retardation is not complete. In the wake of the new worldwide interest in this problem, many professional organizations are including the subject in their deliberations and congresses.

Another development, as yet only in an incipient stage, should also be mentioned —the regional approach. The most outstanding example of this is the establishment of a Mental Retardation Section within the Instituto Interamericano del Nino (Interamerican Child Institute), which is an official agency of the Organization of American States. The chief of this new section, the first operating unit directed specifically to mental retardation in any international governmental body, is a well known special educator and psychologist, Eloisa de Lorenzo of Uruguay. The Institute, with the US Government, cosponsored the first Interamerican Seminar on Mental Retardation in October, 1965, in Puerto Rico, and is now following through with smaller, more intensive workshops, each involving a number of neighboring Latin-American countries. The first of these will take place in May, 1967, in Montevideo.

Another regional organization of considerable interest is the Nordic Society for Developmental Retardation which brings together practitioners and scientists from Denmark, Finland, Iceland, Norway, and Sweden. While this society was not formally organized until 1963, it grew out of an informal committee which began to hold meetings as far back as the end of the last century.

Looking at all these developments around the world, it is certainly most puzzling not to find an international organization of those working in the field of special education in general, or education of the mentally retarded in particular. With all the striking variation in the origin and growth of services for the mentally retarded, educational programs are always among the first to be developed and involve the largest group of professional workers

National organizations on special education exist in a number of countries and are increasingly including the education of the retarded child in their programs. In a few instances, there are separate organizations of teachers of the mentally subnormal; Great Britain for instance has two such groups. The British Special Education Association convened an international conference in July 1966 in London with speakers and participants from numerous countries. Mentioned in this context should also be the "curative education" (Heilpädagogik) movement which has developed, strongly influenced by psychiatry, primarily in some of the central European countries (Austria, Germany, Switzerland). Another major commentary should be made on the fact that the American Association on Mental Deficiency (AAMD) is unique as a broadly organized, interprofessional, national association involving workers from all areas of mental retardation activities. There are organizations in some other countries which are multiprofessional, but none have the outreach of AAMD.

Seen from this perspective, it is not surprising to find that the parent sponsored associations for the mentally retarded have played an important and indeed crucial role in many countries throughout the world. This has been due in large part to the excellence of their leadership, which has included persons of high standing in the professional and public life of their country. In some countries, the associations are officially represented on governing bodies of mental retardation services, and almost everywhere they have made key contributions to the planning process. Indeed comprehensive planning has frequently been due to their initiative. While there are significant differences in the way these associations have developed and operate, it is astounding to see their great effectiveness in socialist Poland as much as in authoritarian Spain; in developed countries like Sweden and developing countries like India; in Brazil as much as in Switzerland or New Zealand.

Time does not permit giving an adequate documentation of the tremendous and pervasive impact of this consumer movement, and some exemplification of their influence in the field of education must suffice. Crucial new areas in educational programs for the mentally retarded are those for children of preschool age and those of work training for the adolescent groups. In many countries such demonstration projects have been initiated by these associations. The same applies to schooling for the moderately and severely retarded; Poland may serve as an example. When several of the local groups in that country started such programs, the only public subsidy they could obtain was from the welfare authorities, since it was held that these classes did not constitute "education." However, the quality of the program initiated by the associations brought about a change in only a few years' time; a ministerial order issued in 1966 is incorporating these programs into the public school system of Poland.

Adequate training of teachers for the mentally retarded has been another concern of many of the associations. This often meant associations had to send teachers abroad for such training, since special education was not yet officially recognized in teacher training. In more advanced countries, the associations have led the fight for the upgrading of both training and salaries for special education teachers.

Of particular importance has been the fact that invariably the associations have maintained close international ties and thus have been aware of and have distributed teaching and testing materials, literature, and films originating in other countries. In several instances the associations have arranged for the translation of such materials to make them more widely available. This has, however, by no means been a one way street, because in quite a number of instances, individual educators have been of invaluable assistance to the associations and, in a number of cases, played a vital part in the initial organization.

In summary, looking at developments in the field of mental retardation during the past two decades, one easily recognizes the significant role played by a large spectrum of public and private organizations; one is also impressed with the great challenges to public and private, professional and citizen groups alike, to achieve closer coordination of effort, and greater efficiency of services.

TEACHING IN ENGLAND IN A HOSPITAL SETTING

Charlotte McPherson

Organized teaching in some special hospitals in England began at the end of last century. The majority of hospital schools, of which there are nearly one hundred, are maintained by the local education authorities and cater for children from the age of two, which is the earliest age at which, officially, education may be provided. In addition, some 2,000 children are being taught in hospitals where numbers are too small, or the need too varied and infrequent, to warrant the establishment of a school. A report issued by the Ministry of Health on the Welfare of Children in hospital states:

> In general, there are two main reasons for educating children in hospital. First, an endeavour is made to ensure that they do not fall behind with their school work, and that they will be able to return to their natural places in the ordinary school. Secondly, (and this applies particularly to the under fives)

> they are assisted to develop mentally in an orderly and harmonious manner. The child has been uprooted from his normal home environment. We have reason to believe that the school makes an important contribution to the child's mental health.

It was probably the recognition of this last point, "the child's mental health," that led to the spread of education beyond the long stay hospitals, and to requests for the services of teachers for (a) acutely ill children, (b) children shocked by burns and other accidents, and (c) children in hospitals for comparatively short periods. Of particular interest in recent years has been the development of educational services in mental hospitals and psychiatric units for children.

During a lifetime spent in this field, I have seen many changes take place. Due to advances in medical science (notable the introduction of immunization against such diseases as poliomyelitis and the use of antibiotics), the number of beds required for children has been dramatically reduced, the children stay in hospitals for a much shorter period, their treatment is much more intensive, and we are now aware that many of them have more than one handicap. Another striking development is the concept of the team approach. Doctors now welcome an educational report, the nursing staff tolerates a certain amount of natural untidiness on the ward in the interest of their patient, therapists consult and discuss progress, and social workers make their contribution—all working together for the benefit of the whole child.

Hospital schools are staffed by fully qualified teachers, but, while today the study of special education forms part of the basic training of most teachers and courses of further training for teachers of handicapped children have been widely extended, no special training is as yet compulsory for teachers in hospital schools.

Background

In my own hospital, which is an orthopedic hospital catering to children with crippling conditions, we have 120 children for whom we have 13 teachers, and, recently, three teachers for the adult patients. Teaching takes place on the wards during regular school hours, from 9:30 a.m. to noon and from 1:30 to 3:30 p.m. The short school day with interruptions for treatment and the impossibility of much, if any, grouping of the children according to their age, ability, and interests, make most teaching individual.

Our largest categories comprise: (a) the under five's who have congenital dislocation of the hip and who may be with us for a year or, on the other hand, may require several shorter periods of hospitalization; (b) adolescents who have scoliosis (crooked spines) and who are with us for nine months. In addition, we have children with cerebral palsy, malformations, spina bifida, leg lengthening, leg shortening, injuries due to accidents, etc.

Organization of a Hospital School

Hospital schools vary in organization but we find that they have many problems in common, such as the wide variation in age range, interruptions for treatment, constantly changing population, uncertainty as to length of stay, and lack of knowledge of past educational history. To offset these disadvantages, no minimum number of pupils per teacher is prescribed.

What exactly are the educational needs of these children? I propose to deal with them under three main headings: (a) nursery or preschool, (b) primary or elementary, and (c) secondary.

Nursery. Although the nursery school in the hospital has been accepted in principle for many years, the importance of play as a positive force in helping young children to accept hospitalization has been recognized only fairly recently. As yet very little in the training of medical students, junior nurses, and sisters helps them to understand the psychological problems that occur in children when they are ill and in a hospital. Teachers in their training now learn in more detail the factors which influence the development of the normal child, and how the condition of being hospitalized affects adult life, so that those who may not actually have had a nursery training can now appreciate the underlying significance and purpose of play. Cut off from play, children are cut off from a legitimate outlet for their feelings and aggression and from a wealth of learning and experience which makes life real and meaningful, even in a comparatively short stay in hospital.

In a recent study of facilities for play in 20 children's, orthopedic, general, and teaching hospitals in and around London, and from observations, it seems that there is urgent need for more attention to be given to this problem, even for short stay cases where the emotional needs are immediate and urgent. The study states that when children were happily occupied with interesting play material, many more people went to talk with them. This is readily understood, for it is much easier to make contact with an alert, interested child than with one who is apathetic or tearful. With good play provision, the children were observed to make an average of five social (as opposed to medical or nursing) contacts per hour, while those with poor play provision made only .76. In wards where supervised play was provided, the children occupied themselves with settled play on an average for 39.4 minutes, but in wards where play was incidental, settled play lasted only 3.8 minutes.

The whole range of nursery activities should be available to the children if we are to attempt to meet their emotional and mental needs and prevent hours of listlessness and boredom.

Domestic play has been found to be the most important factor for the intellectual development of young children, stimulating more learning than any other pastime and also helping children to maintain the link with home. We must, therefore, provide dolls to dress and undress, bathe, and put to bed; provide opportunities for washing, ironing, and pastry making—in fact, all the usual "copying mother" activities which children would experience at home.

Certain play materials will help emotional development. "Messy" play with sand, water, dough, and paint can be very satisfying for children in bed. Also from the emotional point of view, opportunities must be given to play out difficult situations. Hospital play used to be discouraged but the child's teddy bear now goes to plaster theater and has his injections and operations too, thus making frightening procedures more commonplace and therefore less disturbing.

Small toys encourage social interchange and provide opportunities for sharing. Music, story, and song all have their place in the lives of those who may find long periods of inactivity frustrating and who may become passive under such restricted circumstances. The teacher must anticipate the child's requirements and needs. The more restricted the environment the more skill and ingenuity will be required of the teacher. As a result of suitable play provision, symptoms of emotional disturbance such as rocking and head banging are rarely seen today.

Finally, unrestricted visiting gives opportunities for informal talks between mother and teacher to their mutual advantage, the teacher being the only lay person not particularly concerned with the child medically but very much aware of his social and emotional needs.

Primary School. How best can we meet the needs of our primary school children? We always must study the individual circumstances and plan accordingly. We have found over the years that unless the psychological difficulties caused by admission to hospital and by the break with home and school are tackled, learning may be seriously impaired. This has been most apparent with the young child who should be acquiring skill in numbers and reading. Some may settle down easily, appear to have few problems, and conform to a fairly normal school program. Others, who for physical reasons may have had interrupted schooling and thus may have lacked opportunity and experience, may be therefore apprehensive and uncertain, constantly dogged by fear of failure. For those, sometimes a longer period of play is necessary before starting on more formal work, sometimes an entirely new approach must be worked out. With more formal work care must be taken that the work is neither too easy nor too hard, causing neither boredom nor frustration. Although this appears obvious it requires considerable skill on the part of the teacher, who may be dealing with frequent admissions, to make a quick assessment of the newcomer's potential.

Children in a hospital at this period of their lives often miss an important aspect of social education which comes normally through playing with their peers. Again, satisfying constructive activities will need to be devised to channel the energies of lively little boys who are apt to be labeled naughty, untidy, and destructive. Stimulation is necessary for others who are in danger of becoming physically and mentally passive. Teachers coming in to the work for the first time may not appreciate certain situations, e.g., the necessity for allowing the pupil time to readjust himself to school after returning from treatment or therapy.

Many emotional problems of children in this group are often explained when contact is made with the parent school.

Secondary School. With pupils of secondary school age the task of the teacher is perhaps even more complicated, and we are fortunate indeed if they are all on children's wards. Here we may have the whole range of ability—from the nonreader to the student studying for university entrance—and adequate provision must be made for all. With pupils who are backward because of limited ability or other reasons, weaknesses in the basic subjects can be strengthened by concentrated attention. On the other hand there is the opportunity to do something new and satisfying. With those who are to be in the hospital for any appreciable length of time and are studying for examinations, contact must be made with their own school. In most cases text books and schemes of work will be forthcoming, and these students get much stimulus and encouragement in keeping up with their classmates. As most of the work will be individual, many students gain benefit from the specialist tuition they receive. If examinations have to be taken in the hospital, the cooperation of the hospital staff and the examining body concerned must be enlisted.

Facilities are available to engage visiting teachers for special subjects which cannot be covered by the permanent staff. Tuition may then be given within the usual school hours or at other times, by arrangement with the ward sister. The speech therapist plays an important part and we have found a general improvement in school work when the therapist is coping with the additional speech handicap. Teachers of special categories, such as the blind and the deaf, can be called upon for advice if unable to visit regularly. Volunteer workers can be useful to help children who can not use their hands.

A hospital school, however, should have a wide range of special equipment available and be able to produce bed tables, electric page turner, tape recorders, record players, typewriters, perhaps even a microfilm projector, etc. Some of the more complicated pieces of equipment have been found useful to stimulate effort, but may very quickly be discarded in favor of a simpler device.

Horizons can be widened by spending more time on interests such as art, drama, and painting, by stimulating enthusiasm for hobbies of the future and developing specific talents for the child unable to expend his energy in games.

Adolescence is normally a time of rapid physical and mental growth and adolescents in the hospital for lengthy periods are presented with all sorts of problems and challenges. Great value lies in discussing their social problems. Uncertainty about the future is often a major anxiety and a sympathetic teacher is probably the best person to create opportunities for such discussions.

Further Education. In answer to requests for wider scope than was provided by occupational therapy, long stay hospitals can now provide facilities for further education. It has been found that mental activity, stimulated by a sense of purpose, helps physical recovery and averts the inevitable boredom of long hospital treatment. Regular courses in commercial subjects, languages, and so on can be provided by the permanent staff, while voluntary helpers have provided a fruitful source of tutors to satisfy requests for the more unusual subjects such as conveyancing, theory of building construction, Swahili, and thermodynamics.

Records

With hospital pupils of any age detailed records should be kept of the pupil's progress and behavior. Was he left handed before his illness? How did he react to admission to hospital? To readmission? Had the young child begun to talk before admission? If any information in the report from the parent school would be helpful to the medical or nursing staff, a note of this should be attached to his medical records.

This brings me to my final point, which is that all medical and ancillary staff in a hospital are working together for the whole child. Misunderstandings occur through lack of communication and if we can keep the other members of the team informed of what we are trying to do we will achieve cooperation.

In conclusion, whether we can satisfy the educational needs of children in hospitals will depend on the individual teacher and her preparation, on the opportunities for play which she can provide for her nursery group, on how rich and stimulating an environment she can create for her infants and juniors, on her use of special techniques, on the sympathy and practical help she can give to the adolescents, and on her own adaptability to people, places, and circumstances.

PROGRAMS FOR THE EDUCABLE MENTALLY RETARDED IN ECUADOR

Robert J. Prince

On the northwest coast of South America between the countries of Colombia and Peru lies the country of Ecuador. It is a land of contrasts—contrasts in its terrain, its climate, its products, and its people. The terrain varies from low coastal plains through high plateaus to snow capped mountains. Every possible climate in the world is represented, since the climate depends more upon the altitude and the direction of the prevailing wind than upon the geographical location. Ecuador's products are mainly agricultural. Beans, coffee, and cotton are important exports. Wheat, corn, fruits and dairy products can be produced in the Inter-Andean valley, but these products are mainly for domestic consumption and do not contribute greatly to the country's wealth.

It is in the people of Ecuador, however, that one may find the greatest contrasts. There are the very well educated and the illiterate; there are the very rich and the very poor; there are the healthy and the very sick; there are the very intelligent and the mentally retarded. And all of these people interact in a culture which is itself full of contrasts, a culture which is neither completely Spanish nor completely Indian, neither completely traditional nor completely modern, but rather a culture that blends all of these strands into a pattern as intricate and pleasing as a shawl made by Ecuador's famous Otovalan Indians.

For a long time most of the people in Ecuador lived in the Inter-Andean valley which runs the length of the country. Now more people are moving to the coast to look for jobs in the cities of Guayaquil and Manta, where industries and commerce have been growing in the last 20 years. Only two percent of the population lives east of the second ridge of the Andes Mountains. That part of the country is a tropical rain forest inhabited by primitive Indian tribes. The principal tribe, the Aucas, is the tribe that killed five missionaries in 1956.

Over the years there has been a slow assimilation of the Indian and European population in Ecuador, so that now the population is composed racially of 41% mixed Caucasian and Indian, 39% Indian, 10% Caucasian and 5% mulatto. Racial discrimination is not too much of a problem, but class distinctions based on wealth, education, and family background are pronounced.

In order to understand the position of the mentally retarded in Ecuador, it would be necessary to study not only the educational programs but also the place that is accorded to the retarded by society, and the way they are treated by their family, by their neighbors, and by society in general.

General Education in Ecuador

In order to have some basis for comparison, a few facts about general education in Ecuador must be mentioned. Out of 1,000 first graders entering the urban schools in Ecuador this year, only about 300 can be expected to complete the six years of grammar school. Of these 300 about 240 can be expected to start high school. Of these 240 only about 24 can be expected to finish high school. Of these 24, about 8 can be expected to start work at the university.

The dropout rate is even higher in the rural areas where most of the poorer people live. One high school in a rural area on the southern coast had to turn away as many applicants last year as it was able to accept.

Many children never attend school. Primary education is free and compulsory, but the laws are not enforced.

Most schools are overcrowded. One public high school in Guayaquil had 82 students being taught in one half of a large semipartitioned hall. Ninety students were being taught on the other side of the partition.

Teachers in grammar schools seldom have more than ten years of schooling. High school teachers usually have high school diplomas and a few have attended the university for several years. Most of the teachers work parttime, having another job in a private school or doing private tutoring. The pay ranges from $125 to $200 a month. Occasionally the government cannot meet the payroll and the teachers go out on strike for weeks and even months at a time.

Students rarely have textbooks. Library facilities are meager and students are not allowed to take books home. Educators state that the books would never be returned or they would be returned with pages missing or torn.

Against this background we can now focus on the programs for the educable mentally retarded in Ecuador.

Program for the Retarded in Quito

There is only one organized school for educable mentally retarded children in Ecuador. It is located in Quito, the capital city, and draws its 35 pupils mainly from the Quito area. There are six teachers. One of them, the director, has been teaching the retarded for 25 years. Another teacher has been teaching the retarded for 13 years. Both received their training in Mexico City. The director received additional training in Madrid at the National Institute of Therapeutic Pedagogy.

The school in Quito was established in 1956. It is private, but some funds are provided by the government for teachers' salaries.

Admission to the school is based on the recommendation of a physician and class placement is based on psychological examinations.

The plan of studies includes Spanish, simple practical arithmetic, studies of community living and self care practices. In the most advanced classes at least one hour a day is spent in perceptual training.

Each student is given some housekeeping chore to give him a sense of responsibility and importance. The students cook their own bread for the noon meal which they share in the school's kitchen-dining hall (which also serves as a classroom).

The physical facilities of the school are inadequate. There are only three true classrooms, and those are small and poorly lighted. Three other classes are held in a wide, open air corridor running alongside the other classrooms. There is a small patio where the children may play during recess and after classes when they are waiting for their parents or family to come for them. There are no dormitory facilities.

The water supply is clean but undependable, sometimes being unavailable for as long as a day or two.

In spite of the physical difficulties, however, the morale both of the students and teachers is high. The children know that someone is interested in them and the teachers know that their work is having some positive effects on the students.

The Program in Guayaquil

In Guayaquil there is a group of parents, teachers, and doctors who have formed the Ecuadorian Association for Retarded Children (ASENIR). This association is presently raising funds to build a school. Twenty pupils are now attending classes in the mornings in private homes. There are two teachers, and two teacher assistants. The teachers received their special training at the University of San Marcos in Lima, Peru.

Possibly one of the more important contributions of this association has been the establishment of a Scientific Commission made up of neurologists, pediatricians, psychiatrists, teachers, and social workers. The commission has studied the problems of mental retardation in Ecuador, and has suggested steps to solve these problems. The problems pointed out were mainly in the areas of health, special education, and public information.

One problem is the prevalence of goiter in the poorer segments of the population. In some districts of the altiplano region, up to 67% of the population are affected by this deficiency. In the Inter-Andean region the percentage is 34.7%, but in the coastal areas the percentage is low. In all of Ecuador the prevalence is 23.3%. The World Health

Organization has stated that a prevalence of 10% of endemic goiter constitutes a serious health problem. It is known that goiter produces a physical and mental retardation and that there is some connection between goiter, hypothyroidism, and cretinism.

Other health problems are malnutrition and unsanitary living conditions. These lead to weakness and high fevers among expectant mothers. Prenatal and postnatal care are beyond the income of most families, and only 30% of the births are attended by trained medical personnel. Those children who are lucky enough to be born uninjured are often subject to fevers and infectious diseases throughout childhood, in spite of a limited vaccination campaign by the health department.

Educational problems of mental retardation include the lack of trained teachers and the lack of sufficient funds to build and equip special schools.

Problems of public information are related to the socioeconomic structure of the country. The poor are unable to afford medical advice and have little understanding of the importance of hygiene. Illiteracy and lack of education also make it harder to convince parents of the special needs of retarded children. On the other hand, the social stigma attached to disability in upper and middle class families makes it difficult to identify and educate the mentally retarded in those families.

Plan of Action

The suggested plan of action to combat mental retardation and its effects is fourfold: (a) the improvement of general health, particularly the iodization of salt to avoid goiter; (b) the training of teachers; (c) the building of schools; and (d) the education of the general public.

Other Special Programs

Before closing, I should mention that there are programs for other exceptional children in Ecuador. There are separate schools for the deaf and for the blind in Guayaquil. Both schools received considerable support from the Lions Club. Each school has about 35 pupils. The teachers for the deaf were trained at the Institute of Audition and Language in Mexico City under the direction of Dr. Pedro Berruecos.

There is a rehabilitation and physical and occupational therapy program for cerebral palsied and other physically handicapped children in Guayaquil.

In Quito there is a school for the deaf and the blind conducted by the Church.

Other Latin American Countries

One may ask how representative Ecuador is of other Latin American countries in the services that it provides for exceptional children. Ecuador is not representative of countries such as Brazil, Mexico, Argentina, Peru, and Chile. Brazil alone, for example, had 110 schools for exceptional children in 1954.

Ecuador is probably more representative of the smaller, less economically developed countries. However, when comparisons are made among Latin American countries, it must be remembered that the urban centers are usually much more developed than the rural areas. Statistics that are gathered for the whole country tend to mask the progress that is being made in the large cities.

Aid from Other Countries

The United States and other countries have shown an interest in the programs for the mentally retarded in Ecuador. Teacher training fellowships have been offered by the Fulbright Commission, Israel, and the Federal Republic of Germany. Individual US citizens living in Quito have given valuable assistance to the programs for the deaf and the blind in that city.

Possible Role of CEC

Now that we have some idea of the tremendous problems that face educators of exceptional children in Ecuador and in other Latin American countries, we must ask ourselves whether we as citizens of the world and as persons with some understanding of the problems of exceptional children can do anything about those problems. It is my opinion that CEC definitely has a role in this area. I feel that the council could establish a registry of all trained teachers and administrative personnel in this country who have a sincere interest in accepting a one to two year volunteer assignment in a Latin American program. At the same time the council could contact agencies such as UNESCO, USAID, and the Peace Corps to determine whether this type of help is needed and where it is needed. Latin American countries would gain from the services received and the profession in the United States and Canada would gain in the broadening of the outlook and skills of its members.

TEACHER EDUCATION

GRADUATE EDUCATION: THE RELATIONSHIP OF MEANS TO ENDS

Robert H. Bruininks

Since the first American doctorates were awarded at Yale in 1861, the nature of graduate education has evidenced only slight change. Like the students of today, the recipients of the first doctorates took a number of required courses and seminars, demonstrated reading proficiency in foreign languages, passed a comprehensive examination, and completed a dissertation similar in format to that required today (Rosenberg, 1961).

As was true a century ago, the ends and means of graduate education remain the subject of controversy. In a recent article, Sterling McMurrin (1967), former US Commissioner of Education, discussed the perennial problem of ends and means:

> Among the large problems that are always with us, none is more persistent, more pervasive, or more basic than the problem of means and ends - of insuring that our methods, techniques, and instruments are adequate to the ends we seek, that the ends are relevant to our abilities and, above all not dominated and determined by our means (p. 40).

McMurrin's comment stresses the importance of judging the effectiveness of educational practices according to the degree of compatibility which exists between the means (or the procedures adopted) and the goals desired. In considering contemporary graduate education, existing practices should be evaluated in terms of whether: (a) the educational experiences available are in harmony with the stated ends, (b) the goals are realistic and attainable, and (c) the goals are too narrowly defined in accordance with the existing means. The ends-means paradigm provides a useful, heuristic model to analyze advanced study. This model will be used in the following discussion to consider a few essential innovations which possess the potential to bring the experiences or means of study into greater conformity with the broad ends sought in the terminal degree.

The ends or goals of graduate education possess a self evident quality. Generally, it is assumed that a candidate for the doctorate aspires to a career of research and scholarship. Products of doctoral degree programs are expected to advance and utilize the knowledge in one or more specialized fields irrespective of whether the degree program has a scientific or professional orientation. Their tenure of graduate study is viewed as a period in which the prerequisite skills for scholarship are developed. Ideally, this should enable the candidate to precipitate himself into continuing intellectual exploration.

The means which are used to attain this important goal are the source of extensive debate. Debate, however, typically centers around administrative issues which are tangential to the quality of the educational experience (e.g., research tools, residence requirements, admission requirements, etc.). This more elusive issue typically receives only token consideration. Yet, the qualitative aspects of educational experiences are the ultimate determinants of the degree of congruity obtained between goals and the procedures adopted to achieve their attainment.

The lack of sufficient opportunity for the independent pursuit of ideas represents the greatest inadequacy of current degree programs. We are wedded too much to the German-Scottish system of lectures and formal classes and incorrectly assume that this procedure represents the most efficacious mechanism to transmit to students the desire for intellectual exploration. Educational experiences at the advanced level, however, should embody sufficient flexibility to encourage the pursuit of creative inquiry. Although many extant advanced degree programs have achieved a high degree of excellence, certain opportunities for independent study are either unavailable or available in limited dosages.

A possible cause for this state of affairs could be that a number of misconceptions shroud the idea of independent study. This approach does not imply license, nor the opportunity to study what one wishes; neither does it obviate the need for faculty supervision. In fact, at the advanced graduate level, the need for faculty attention may be greater under an independent study approach. Furthermore, apprehension that a deterioration in achievement results from independent study is not justified. Studies demonstrate that no difference in achievement or retention is found between students enrolled under traditional versus independent study approaches (Baskin, 1962; Chickering, 1964). Finally, independent study is not a complete substitute for organized classes and seminars; it simply represents an alternative to increase program flexibility by providing an opportunity to pursue studies (scholarship) beyond the confines of the existing program structures.

A definite need exists to consider the development of independent study programs. Several alternate ways of organizing this approach should be considered. Students might elect to cover required formal course content by this approach. In this way, advanced students could more appropriately explore subject content which, in many courses, is often geared simultaneously to undergraduate, masters, and doctoral level students. Thorough examinations could be required to insure adequate mastery of subject content. An independent study approach, moreover, would increase opportunities for individual projects and research studies.

Perhaps the most intriguing suggestion for using the independent study approach in graduate study has been advanced by Dr. Nicholas Hobbs (1965), who suggests that every doctoral candidate be permitted to enjoy a period of free time for study at "Woolsthorpe." This interval of time should be free from the encumbrances of course grades, term papers, and examinations. Its primary purpose would be to provide the student with an unrestricted opportunity to engage in the independent pursuit of ideas.

The name "Woolsthorpe" has an interesting historical origin. During the years 1665 and 1666, a great plague spread throughout England necessitating the closing of all universities. One student, Isaac Newton, who was relatively unknown at that time, returned home to the rustic atmosphere of Woolsthorpe Manor near Grantham. There, in 18 months, without interference from either his professors or the graduate dean, Newton formulated his laws of motion, invented calculus, and started his great experiments on optics. While few of us would spend our time as profitably as Newton, "Woolsthorpe" exemplifies an atmosphere conducive to creative thought. This conscientious promotion of the "private enterprise of the mind" (Hobbs, 1965) might result in a significant increase in a commodity required to make viable any developing field such as special education, i.e., the commodity of good ideas. Provisions for a period of uninterrupted time appears to agree also with the interests of graduate students in special education as expressed in the recent survey of doctoral practices conducted by Dr. Francis Lord (1966).

Independent study, however, has not enjoyed immunity from criticism. The criticisms most frequently voiced against this pedagogical method are that (a) it results in an excessive infringement upon faculty time, and (b) graduate students lack readiness to assume the requisite responsibility. Berelson (1960) states:

> ...I think the present situation does not really allow for independent work on a large scale; the students as a group are probably not ready for it (p. 236).

An examination of the aforementioned criticisms reveals two major weaknesses. First, the goals of the terminal degree are to develop both the ability for independent and critical thinking as well as a propensity for scholarship. Yet, the traditional means adopted to attain these ends employ regimented procedures which are best suited to the development of dependence and intellectual lethargy. Second, the obligation to give adequate attention to the needs of students is implied in the faculty commitment to graduate education. Furthermore, the proportion of faculty time to students could be easily increased, without detracting from their other obligations, through the elimination of perfunctory and tradition tied exercises (e.g., the final oral). In any event, the potential gains which could be derived from independent study warrant, at the very least, a serious test.

Another important consideration in graduate education is the availability of sufficient curricular offerings. Special education is an emerging field. As a consequence, many institutions have limited resources and cannot provide the full range of experiences sought by today's candidates. These limitations largely emanate from manpower and budgetary deficiencies. This state of affairs will probably continue during the next decade.

To increase the flexibility and scope of existing programs, cooperative arrangements between institutions granting advanced degrees in special education must be considered. The formation of a type of "Common Market" among institutions would provide the vehicle to initiate a number of needed cooperative ventures. This organization could be patterned after the newly created Committee on Institutional Cooperation (CIC) which includes the Big Ten universities and the University of Chicago (Salwak, 1966). In some fields, the CIC permits studies to be extended to several of the cooperating institutions. This enables member institutions to pool faculty and indigenous resources in the enterprise of training and research.

A "Common Market" of cooperating institutions in special education could be used in some of the following ways:

1. To establish traveling scholar programs which permit the short term exchange of students and professors (with course credit being transferable to the degree granting institutions.
2. To expand internship opportunities of both a research and service nature.
3. To undertake cooperative research ventures.

Such an administrative arrangement would capitalize on the unique strengths of the member institutions. The end result would be to increase measurably the array of educational experiences currently available within any single institution.

A final consideration is the need to clarify the ends of advanced degrees. To further delineate the terminal goals of the doctorate, the development of a taxonomy of skills is required. The prevalent uncertainty concerning degree requirements represents a real deterrent to the completion of graduate studies. Only 50 percent of entering candidates receive the Ph.D. in contrast to a rate approximating 90 percent among medical students (Carmichael, 1961). These figures emphasize the need to clarify the goals, purposes, and expectations of graduate study. In this vein, Carmichael (1961) states:

> Able students respond to the challenge of rigorous requirements but not to uncertainty (p. 146).

Moreover, the feedback or communication process between students and faculty needs reexamination. In order for an atmosphere to be conducive to the productive growth of the student, sufficient and candid faculty feedback should be available to permit a constant monitoring of progress against stated objectives.

In a period when change in the nature of education at most levels is commonplace, the graduate program is committed to the perpetuation of tradition. This inertia may well be attributable to the source Berelson (1960) identified in the following statement:

> Perhaps more here than in other professions, present practice is perpetuated precisely because the judges of the product are themselves earlier products and present producers. So there is a closed system at work (p. 218).

Causes for past and present inertia, notwithstanding, graduate education must evidence increased flexibility and commitment to the concept of change. As Newton had to contend with the bubonic plague, today's advanced graduate students must contend with the plague of rigid adherence to inflexible traditions. An increase in the flexibility of current program offerings is urgently needed to insure that our means are adequate to achieve the ends we seek.

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FACULTY-STUDENT RELATIONSHIPS IN GRADUATE EDUCATION

Alexander L. Craig

Of the many possible topics concerning graduate study, the teacher-student relationship seems to be both pertinent and difficult to comprehend. At times purposely ignored, at best unstated, overlooked, and poorly understood, this relationship can make smooth the mechanics of graduate study. As grease provides an axle with the freedom to increase its momentum and thus become more proficient, an understanding of the faculty-student relationship can facilitate graduate study.

In recent years and at various conventions, symposiums, and workshops, many have spoken loudly and lengthily about communication, the interdisciplinary approach, and the team approach. These terms and their connoted acts have been developed with some clarity at this time; the problem does not seem to be in knowing what to do, but rather with how to act if there were any inclination to act. Instead of attempting to define the teacher-student relationship and all of the ensuing acts, the writer wishes to look at some of these acts, understandings necessary for their fulfillment, and a few general ideas related to the topic.

Experience in both roles, of teacher and of student, has led the writer to the conclusion that this topic needs not only investigation but action. While not lending itself to empirical research, the research scholar might be attentive to the problem if for no other reason than to find ways of propagating his species.

Clinical detachment, while necessary for research, has adversely influenced intellectual intercourse at the university level. The university is a teaching institution as well as a cloister for the researcher. Can callousness be excused on the grounds that the university lends itself to research? Schools of education within the university teach or lead one to believe that the school is an agency which serves to aid in the socialization process, while often failing to perform the same function itself. How can we in special education deal in himan problems, if our own instruction has been dehumanized? Arrowsmith, in discussing the future of teaching has said about the university:

> Here we have a generation blessedly capable of moral outrage, and it is the bitterest of anomalies that the humanities should be dying among students capable of moral outrage in a morally outrageous world. Almost without exception the response of the universities to this profound hunger for education, for compelling examples of human courage and compassionate intelligence, has been mean, parochial, uncomprehending, or cold. Above all, cold. The waste in sheer human incentive, in disappointment in matters where disappointment is destructive and fatal, is appalling. But what fills one with rage is the callousness of scholars, the incredible lack of human concern among humanists, the monumental indifference of the learned to human misery and need. Why, you ask, is teaching held in contempt? Because it has become contemptible by indifference. Teaching has been fatally trivialized by scholarship which has become trivial.

The art of education has succumbed to the art of gain and thus has become indifferent toward the student.

Situational differences—college, university, or department—are inadmissible in this discussion. It appears that a similar working relationship is necessary irrespective of one's action sphere. Involvement conjures various responses; involvement is perhaps the core of the problem.

Integration

On the integration issue, the North, and perhaps rightfully so, has been severely criticised for liking Negroes as a group but not as individuals. The same is a justifiable invective of the university. Recently several senior women said that few instructors had known their names or shown interest in their careers beyond the course of study in which they were mutually involved. These women were not asking for social interaction, but they were asking for intellectual interaction on a personal basis. It is questionable as to what feelings and attitudes these women will bring to their elementary classrooms, what warmth they can provide the child who needs them, and how much their education has cost them in terms of humane feelings, attitudes, and virtues.

If interaction is necessary in general education as it is supposed to be, then can it be less important in special education? Unless man's nature has been altered in the urbanization process, the problem is important, and the future humaneness of our children may depend on our willingness to deal responsibly with interaction.

Teacher Role

To analyze the teacher-student relationship, a beginning can be made by asking what is the role of teacher. Are there responsibilities and duties concurrent with the role beyond the acts of teaching? Some writers have indicated that roles are mandates on behavior.

According to Green, the logical acts of teaching are those acts which can be evaluated independently of their consequences; these acts are appraised on logical grounds. An example might be a perfect lesson in solid geometry presented to a second grade class. While no learning may be evidenced, the teaching itself may have been perfect. A logical delivery may be the least that can be expected of one who would take the role, the teacher. Educational psychology has pointed out that a logical delivery is not sufficient, that some strategy is also necessary.

Again according to Green, the strategic acts of teaching imply that the instructor's concern is student learning. Here, the acts are evaluated by their consequences. Learning or a change in behavior evaluates the successfulness of the teaching. The term denotes an attempt by the teacher to use some kind or kinds of strategy in his teaching. Having mastered the logical and strategic acts of teaching our instructor is fulfilling the academic expectations of his role. Through the logical and strategic acts of teaching he can demonstrate mastery, the subject matter model which many graduate and undergraduate students seek.

On the graduate level, however, and certainly on the undergraduate level, there appears to be more that is necessary than the aforementioned acts. Most professors serve in capacities in addition to instruction per se. One such capacity is that of advisor; this means we are now involved in the office of teacher. While being an advisor can be looked upon as a tedious position, it can be highly satisfying. From the standpoint that the novitiates are joining the profession, the function is most serious. Given the function of advisor, two courses of action are open; both of which reflect or fail to reflect responsibility, responsiveness, and involvement.

The first course is one of mass involvement. Students can be programed and their problems dealt with according to the regulations, requirements, and policies of the institution. With adequate information a computer can perform this function efficiently. Many of these stipulations have proven highly useful in addition to expediting routine services. The danger is the unintended paradox. The uses to which policies are out are often divorced from their intended usage.

The second course is one of individual involvement. Thus it is indicated that the advisor comes to know the student. The knowledge derived from coming to know will direct the advisor in his interaction with the student. If college experience is to change the student, then the advisor can effectively aid this change by coming to know the student, his interests, abilities, and attitudes as well as his weaknesses and limitations. Leaders in higher education report that counselors are now being employed to work with students in planning their programs. Who, other than the major professor, could adequately perform this function after basic courses have been taken? Given the responsibility, personal differences within the advisor are inadmissible as an excuse for poorly performing or failing to perform this function.

Going beyond the student's course of study, the advisor is often called upon to deal with personal problems. However, graduate schools seemingly expect personal problems to have dissipated with age. It is questionable if any student problems are either novel or beyond amelioration. However, in severe circumstances other professional help may be tapped. Rather than saying, "I cannot help you," the advisor should say, "From these sources we can get help." While it has been said that situations are sometimes threatening, what right do teachers have to accept the office without anticipating some of its responsibilities, or remain there unwilling to perform the functions of the role? The transition from dependence to independence is a gradual process, and fortunately many professors realize that for the student, this takes both time and thought.

Thus far the writer has attempted to introduce the topic and look momentarily at the role of teacher. Of greater importance perhaps is the role of the student. Handling this role can be difficult. What are the responsibilities and duties of the student?

Student-Teacher Relationship

There are several fairly common ways of viewing the teacher-student relationship. One theory likens this relationship to a funnel and a bucket. The master merely pours material into the student until either the student or the material has been exhausted. Many large undergraduate courses operate on this principle; some graduate courses do too, especially at the master's level. There is little, if any exchange between the teacher and the student. The student's role is to take in information

A second view is sometimes called the master-disciple relationship. Not be be confused with the dialectic approach, this view is one where the master strives to indoctrinate converts who will then go out and spread the word. This may explain why some theorists have large followings but poor theories. A sort of mystique is built up. The student's role is to learn and promote the theory. A third and sound view of what the relationship should be is one where the subject is important, not the people involved. As such the disciple listens, examines, questions, evaluates, modifies, and promotes the ideas put forth by the master. The student, when acting in this manner, aids the instructor in making clear the theories which he would promote. By developing situations, introducing new perspectives, and examining the epistemological aspects of a given topic the student contributes to the instructor's prowess. Evidently, performing in this manner is sometimes hazardous, depending on how secure the master is. If the purpose of their coming together is to learn the truth then there is no fear in disagreement. Members in the third approach are not threatened and willingly admit to being wrong when shown to be in error.

Also within his realm, the student can help improve the instructor's delivery. A common observation is that Mr. X has a fund of knowledge, if only his presentation, delivery, and style were more interesting. If more can be gained from reading a book, why attend classes? At some schools there is currently a trend toward ranking and grading teachers. It seems less than fair to assess qualities without suggesting how the situation can be improved. Of course there are cases where simply pointing out deficiencies is ample. Graduate students in education, themselves experienced teachers, should be better equipped than other graduate students in dealing with instructional problems in higher education; in fact they may be obligated to offer constructive criticism.

In curriculum development the graduate student has a major responsibility. At this point in preparation there should be a clear idea of one's life work. If at all reflective, the interested student who is aware of his professional needs will ask to cut across colleges and departments when these needs are not being met by his major area. Not only will he be meeting his educational needs, but he should be coming back with fresh orientations anent his major area. When necessary courses are not being offered on campus then the student might propose their inclusion if the need is felt by others; an alternate solution may be independent study. If the student charges that the curriculum is either trite or lacking, this is partly his responsibility. Whereas it is hoped that trainable children are at least verbal enough to tell where they hurt, it seems strange that graduate students can, but frequently do not.

Another sphere of action is working with other students. Of course graduate students are busy with their own work, but as educators involved in human problems, they may wish to share more than knowledge, skills, and resources which are directly related to graduate study. Orienting prospective students to the school philosophy, pointing out and correcting social ineptness, seeking out and promoting personable ways which may be unique to this profession, contributing to higher education of which we are a part, these are some of the functions which we may have an obligation to perform.

Students at all levels remark that their lack of involvement in the abovementioned ways is due to either not recognizing such as their obligations or not wishing to risk personal loss. Are educators fully aware of their responsibilities? Can they move across the line to instruction at the next higher level without knowing how to act at this level? What is the risk? Can they afford to let the fear of personal loss guide their lives? Can they afford not to let the fear of personal loss guide their lives?

Suggestions

It is hoped that some pertinent remarks have been made and some poignant questions asked. It should be apparent by now that neither teachers nor graduate students have functions which are completely inseparable. Both can develop ideas, recruit prospective students, build curricula, etc. For this to take place there must be continuous interaction between teachers and students, their aims must be selfless, and their methods must be dialectical.

How can the apparent situation be remedied? While not entirely certain of the thoughts offered here I offer some suggestions for consideration:

1. Hold regular departmental and interdepartmental informal discussion sessions where issues of the present and future can be explored. Bring in other disciplines.

2. Include seminars in the curriculum which deal with college teaching, theory, and methods.

3. Establish inservice training practicums with supervision before allowing students to graduate from schools of education or join the ranks of education.

4. Hold annual enforced retreats where various disciplines and departments can discuss shared problems.

5. Have a reassessment of key words and phrases in education. Suggested are: career, profession, involvement, interaction, sharing, responsiveness, duty, knowing what, knowing how, knowledge.

6. Remove or change policies, standards, overlapping courses, etc., which have

little or no value now.

7. Of most importance, make yourself intellectually and emotionally available. Otherwise, the above suggestions will make little difference.

In summary, it appears that the role of teacher and the role of student are inseparable in most instances at the graduate level, and should be. A few suggestions have been offered for ameliorating a major problem in graduate education, the teacher-student relationship.

GAME THEORY USED AS A MODEL FOR THE ASSESSMENT OF GRADUATE STUDENT-FACULTY ROLES

Robert W. Heiny

The field of special education is in a state of review and revision which results in program changes. These changes are occurring from the preschool level through the graduate program level. The analysis of the university structure and its functions in society have included the concept that the university is a loosely joined structure which is traditionally anti-bureaucratic in ideology (Clark, 1964). This school structure serves to differentiate and distribute the student population among the major lines of future careers (Cicourel and Kitsuse, 1963) by the classification of students (Clark, 1964) into various categories of academic and technical preparation.

While the universities have become more bureaucratic in operation despite their stated ideology, the professions for which the university prepares personnel have developed into federated forms of authority. This authority is located in an individual expert who exists with other individual experts in semiautonomous clusters (Clark, 1964). These clusters of experts frequently are associated with a university in the role of a faculty member, a researcher, and/or a consultant.

Since the technical skills of a profession are located in the individual expert, there tends to be a proliferation and a differentiation of both the expertise and the expert (Clark, 1964). The differentiation of the expertise of the faculty members in special education in a university may be in the direction of any one or any combination of the roles of (a) instruction, (b) research, and (c) consultation to extramural governmental agencies (Gallagher and Henderson, 1966). The differentiation of the expert may be in terms of (a) orderly replacement of the faculty members's role, or (b) the development of the universal permanent availability of future colleagues (Heiny, 1966).

Rationale for Analysis

In order to objectively discuss the preparation of a graduate student for a role as an expert in special education, it is first necessary to make several assumptions.

The first assumption is that the graduate student and the faculty members with whom he comes in contact, function on a rational (means-end relationship) basis. This assumption of rational behavior on the part of the individuals being considered is superimposed over the observed behaviors of these same individuals. If an assumption of nonrationality were to be made, by definition there would not be any way to predict what observable behaviors would occur next. Thus, by assuming rationality on the part of the observed behavior, it is possible to note patterns of behavior, relationships within and between these patterns, and predict what will occur next in a sequence of events.

A second but related assumption is that both students and faculty members are goal oriented. These goals (ends) which are being sought (a) include professional as well as personal goals, and (b) include manifest (explicit) goals, ones which may be stated in words or in action in a predetermined manner; and latent (implicit) goals, ones which may be the concomitant result of a single or a set of explicit goals, or may be an unintended goal.

A third related assumption is that students and faculty members utilize strategies (means) to obtain the various goals which they are seeking. Some of these strategies are idiosyncratic in relation to traditional academic, research, and service goals of the student or of the faculty member. However, many of these strategies have been utilized by numerous students and faculty members over a period of time. This recurring utilization of strategies has established a set of normative, preferred, and prescribed expectations for strategies to be used in various situations by specific role players.

The fourth assumption is that the student role is just one part of the graduate school experience of any graduate student. It is, therefore, anticipated that there may be some of the roles which will compete for time, emotional energy, and even for space during the temporary period of student life.

Because the graduate student must play multiple roles in both a domestic and a professional career, he must develop a set of priorities which lead to specific strategies for obtaining a desired goal, including a reduction of the conflict between the roles. These priorities and strategies are based upon information about the consequences of various strategies.

Model for Analysis

The model of the open and the closed systems for the analysis of the graduate study in special education is based upon the games of strategy approach used by Farber (1960). Briefly, the graduate program is seen as a contest between the student and the rest of his environment. This contest is composed of players, of moves, and of payoffs in an open or in a closed game.

The closed game is played when all of the players know what the rules are at the present time and what the players' relationship is to obtaining the big payoff. The open game is played when the players are less sure of what all of the rules are at the present time and are even less sure of what the rules will be in the future. The object of all of the players in the contest is to obtain the big payoff by following the rules of the game to completion.

The players in the contest are the student, the faculty, the university administration, and the professions of education, psychology, sociology, medicine, etc. The moves of the game include (a) the strategies which the players utilize, (b) the priorities which are assigned to given strategies, and (c) the timing and sequencing of the utilization of these priorities. The big payoff is the goal or the objective of the advanced graduate program, and is the result of the timing and sequencing of priorities by all of the players in the contest. Most often for players in a university setting, the payoff is an academic or a professional degree and/or a professional position or job. Ideally, the payoff is the result of having completed an acceptable series of side-bets such as passing grades in course work, passing written and oral examinations, writing publishable papers, etc.

Analysis

The graduate program in special education at any university probably does not fit entirely into either of the ideal types of open and closed games or systems.

The Closed System

In the closed system, the student is being prepared to replace the teacher in his role of transmitter of accumulated knowledges. This relatively single role had a set of rights (ivory tower study and laboratory relevant results) and obligations (accumulation of knowledges) which were well defined through many years of use. To facilitate the transmission of this single role, relatively few students were in contact with the faculty members. These few contacts could, at the option of the participants, be either formal or informal, and could range over a wide variety of topics from personal life problems and philosophies to problems of academic content. The closed system, to the extent that it existed in reality, provided a personal basis for graduate study on the part of both the faculty members and the student. The moves which were followed by the faculty were directed to replacing themselves with their student(s). The strategies which were followed included instructing academic course work, personal assistance to students, taking time for informal activities (admittedly limited at various times) with students, and establishing a respected professional status. The priorities used emphasized preparation of the student to directly or indirectly replace the faculty member. Respect between the two players was on the basis of direct and indirect professional and personal contact, not just on the basis of maintaining an acceptable level of formal academic accomplishment.

The moves which were followed by the student in the closed system were directed at replacing the faculty member when he retired or died, or in establishing a new faculty position in a new university. The new faculty position indirectly replaced the first generation faculty member by restricting the number of students coming in contact with him.

The strategies which were followed by the student included taking academic course work offered by the faculty members whom the student wished to replace or continue, requesting personal assistance from the faculty, establishing personal contacts on an informal basis with the faculty, and providing the faculty with technical and personnel assistance in their professional goals (known as the "without whom credit" to the graduate assistant in the preface of faculty publications), learning the faculty members' writing and interpretation styles, and incorporating these knowledges into the students' repertoire of professional and personal patterns of behavior. The priorities which were used emphasized gleaning information and a symbiotic reputation from the faculty member, and the establishment of a relatively high status in the profession of special education. The closed system may be considered as providing an orderly replacement of role participants in a basically static system.

The open system is associated with a more rapidly changing program. These changes may be occurring in the roles to be developed to maintain the system as well as in the knowledges which are developing within that system. In the open system, the future state is not to be predicted solely on the basis of the roles which have existed in the past. Instead, accurate prediction must take into account the presence of factors outside of the historically based system. These additional factors include (a) the maintenance demands of the more general society for information and personnel, (b) the application of knowledges gained in the historical setting, and (c) the competition of outside social institutions for personnel who might be associated with the previously closed system. Thus, the open system is preparing personnel to replace some of its role participants and to provide new content and roles which may be required in the future. This open system may be considered as providing a permanently available set of personnel, rather than personnel to fill specific roles.

In the open system, the faculty members develop differential strategies to accomplish their three professional roles of instruction, research, and consultation. Some of the faculty spend most of their time in direct, student oriented activities such as instruction and student consultation. Other faculty members spend most of their work time in the development of knowledge, working with students who are associated with these programs and signing class registration cards of advisees, and/or being generally consumed by nonstudent oriented activities.

As Gallagher and Henderson (1966) have mentioned, the professor as a person is not removed from his professional role. By the same token, the professor as a person may not be removed from his role priorities. Some faculty members will consistently prepare and deliver informative, stimulating lectures which are directly related to the course content as listed in the graduate college catalogue. Other faculty members present information which lacks general positive student reaction outside of the classroom, and which may be more related to the faculty member's current nonstudent oriented interests than to the course description in the catalogue.

The student in the open system develops differential strategies which focus on (a) methods to accommodate to the faculty strategies—priorities for handling their three professional roles, (b) informal and formal collections of information regarding courses and faculty members, (c) learning the preferred and prescribed student patterns of behavior of the various faculty members, (d) developing rationales for being in various types of graduate programs, and (e) having personal opinions and ideas subjected to discussion and examination. To the extent that the system is considered as being open or closed the strategies which are utilized by students will incorporate the above areas.

The student role in the open system is somewhat ambiguous. This state of ambiguity exists because the field of special education is relatively young in higher education programs. Since the field is relatively young, and since much of the initial emphasis for the development of special education came from persons interested in the application and development of more efficient methods of management of the handicapped, there has been a relatively limited body of systematically collected knowledges (not just opinions) and skills to pass on to the next generation of graduate students. Since the body of knowledge in special education per se is limited, the strategy in graduate study has been to rely heavily upon the historical aspects of the program, and place students in other academic specialty areas in order to adapt these knowledges and techniques to special education for trial application.

The emphasis upon the historical aspects of special education may be used to develop an attitude regarding the collection and use of knowledges and techniques instead of acquiring specifically relevant and applicable knowledges and techniques. The student is sometimes expected to transfer knowledges and techniques which were developed in traditional academic disciplines to the applied field of special education. This transfer is to be made even though the faculty members who are associated with the student may not be familiar with the specific content of this transfer. Thus the roles of student and faculty become somewhat ambiguous and at times even reversed. This reversal becomes professionally and emotionally complicated to the extent that the priorities and the strategies of both the faculty and the student are related to orderly replacement or to the development of permanently available, complementary professionals.

The ambiguity of the student role leads to the development of competition and cooperation between graduate students. To the degree that competition and cooperation exist between and among students, it seems to take the following forms.

The competition which arises between students seem to be related to the course sequence which is followed and to the academic or professional degree which is to be obtained. The courses which are taken are formally and informally evaluated by some students in terms of (a) applied or theoretical, (b) masters and undergraduate level (300 courses) versus graduate level (400 courses), (c) which instructors are teaching the course in terms of extensive or limited requirements, and (d) the relative number of students from other disciplines who are taking the course (i.e., from the department of psychology, engineering, physical education, music, etc.).

Students also become involved in elaborate and sometimes highly opinionated discussions of the relative merit and status of the two major degrees which are offered in education by the Graduate College, the Ed.D and the Ph.D. These discussions and opinions sometimes take the form of a game of "One-up" where the resolution to the discussion is related to the degree of one-up'smanship which the students may have developed rather than an objective rationale.

It seems to follow that to the extent that the spirit of competition exists among the graduate students, to a portion of that extent the faculty foster this competition. This fostering of competition between students may be illustrated by the distribution of grades for course achievements even at the graduate seminar level. These grades are administered even though the faculty has implied and sometimes informally stated that once the student is accepted into the program, he will be aided in remaining in the program (Gallagher and Henderson, 1966). This conflict between acceptance and practical grade evaluation leads to role ambiguity on the part of the student which seems to be related to competition.

A second set of circumstances which seem to foster competition between students is the variation in priorities and strategies which both the student and faculty members employ in order to maintain their roles at the university. Perhaps the interaction between these many priorities and strategies provides the student with an ambiguous situation in which the student, in fact, does not know who is there to help him with his education, and who is there to "psych him out" so that the top grade or future professional position will not be obtained by at least that one student. Just how much competition exists is an empirical question. However, that it does exist and that it is explicitly or implicitly fostered by an ambiguity of preferred and prescribed expectations and roles seems to be evident from a surface analysis of the open system of advanced graduate education.

The cooperation which arises between students may be considered a strategy (a) to overcome some of the competition which may exist, and (b) to develop the roles of complementary status in graduate school and in the future professional roles. Cooperation in this case resembles an exchange of political back scratching, and is sometimes difficult to distinguish from "cooling-out" the fellow student so that he is not as much competition as he might otherwise be. Ideally, cooperation develops a body of student knowledges and techniques which are passed on from one generation of student life to another generation.

The information which is randomly collected and passed along describes impressions of courses and faculty members which the student may elect to take or is required to take. The information regarding courses describes which ones are (a) easiest and hardest to get an "A" grade in, (b) most and least time consuming, (c) most and least organized, (d) most and least directly related to special education, and (e) most and least approved of by special education faculty members and graduate students.

The information regarding faculty members includes descriptions of those which are (a) most and least student oriented, (b) most and least special education oriented, (c) most and least knowledgeable in specific course content and related fields, and (d) most and least receptive to student questions in and out of class. Also of interest are the types of questions to ask which seem most related to various course grades and idiosyncratic mannerisms and interests which may or may not affect the student's course experiences.

This information is not systematically collected and distributed among all graduate students. However, to those students who inquire regarding specific information, and who are considered as safe or discreet users of such knowledges, the information will be partially supplied. The degree to which the information will be supplied will provide an index of the degree to which the student is accepted, trusted, or considered in a complementary versus a competitive role with those particular graduate students.

One of the results of the above information not being readily available in a systematic form is that groups of students may obtain and use this information to their advantage, and other students do not have the same advantage. This type of nonequal distribution of information may be the result of (a) the priority placed upon such information by various students, (b) the relative degrees of cooperation and competition which exist between the students, (c) the types of pressures under which the students consider themselves, and (d) the general utility of the specific information.

To an undetermined extent, this type of information, when it is systematically collected and distributed replaces the personal faculty-student relationship of the closed system. The above information supplies the student with data which can be used to his advantage in overcoming the academic hurdles of term papers, examinations, and the acquisition of general knowledges.

Other information is systematically collected by students and somewhat less systematically distributed. Examples of systematic collections of information include (a) the student operated qualifying examination file, (b) the individual student collections of faculty members publication reprints, books, and speeches, (c) the student-faculty coffee hour sessions which can be brain picking, information trading sessions, and (d) informal parties and picnics.

Each of these nonsystematic and systematic methods of student-faculty interaction may lead to either cooperation or competition between the players. The degrees of cooperation or competition which is obtained in reality is related to the interaction between the priorities of the respective players.

In general, it is accepted that graduate students will be (to some extent) the future faculty members of colleges and universities, administrators of local, state, and federal government programs, and basic and applied researchers in special education. It is also accepted that these role participants will have to have (a) more specialized information and skills than some of their predecessors and (b) at the same time be flexible in order to develop new programs with a minimum of precedence, develop more effective curriculum materials, handle larger numbers of students at all levels of education, and appropriate and more efficiently utilize more money for financing these programs.

It is anticipated that the current students will be learning from the efforts of their instructors, and that all of these efforts will not need to be repeated in order to develop more efficient programs. Thus, it is considered that the graduate student of today will in the tradition and interest of scientific effort go beyond today's leaders. Perhaps these future efforts will be of increased value to the society in general, as well as being increased in quality. This increase in the quality in education may affect the relative status of the educator in relation to other professionals and scientists.

Since there is not a rational way to predict what will be obtained in the future of special education, it is difficult for both the faculty member and the student to outline a specific set of course requirements which will be all sufficient. The faculty members of today are obligated to instruct students, to conduct research, and to consult. These roles all take personal and professional time and energy. This energy is allocated according to a set of priorities which each faculty member has developed for himself. Although these priorities are not absolute, whenever a conflict of interest arises, it is anticipated that the top priority for that time slot will get the energy which is necessary to complete the task. For some faculty members the graduate student receives top priority most of the time. For other faculty members the advancement of knowledge or the consultation to governmental agencies receive priority over instruction of the student. This seems like a fact of life for roles in a complex open system of education. Thus the rights (to establish priorities in the roles which are assigned to the university faculty member) and the obligations (to instruct students, to conduct research, and to consult with governmental agencies) of the university faculty member may at times be inconsistent with the rights (to receive instruction, to learn to conduct research, and to receive consultation) and obligations (to exert personal efforts to obtain information and skills, and to follow the rules of graduate school) of the graduate student. These conflicts of interest are a result of the ranking of the priorities of both the faculty members and the students. The moves which the faculty members use are designed to maintain some sort of workable and personally satisfying balance among the multiple roles which are assigned to him. The strategies which are followed include all of these which were used in the closed system, plus establishing some system of priorities among these strategies to facilitate a fulfilling of as many of them as possible. These priorities frequently include working late hours at the office, spending weekends catching up on mail which has accumulated while out consulting, drinking coffee while reading a manuscript and discussing a student's problem, organizing national programs and conventions, coordinating the activities of graduate and research assistants, and when there is time either sleeping, playing golf, or hiking with a son.

Since the specific goals and related roles are not outlined for the student who is preparing for a professional career in special education, the types of moves which he utilizes will vary from role player to role player.

The moves which are followed by the student are directed at (a) establishing priorities, (b) acquiring skills and information, and (c) preparing to assume complimentary roles to the faculty members.

The strategies which are followed are basically the same as those for the closed system (academic course work, student-faculty discussions, parties, learning the writing and interpretation style of the faculty members, plus establishing a set of priorities which will serve as a guide to future professional activities). The main difference between the strategies in the two systems is that the student in the open system is not planning to replace a specific faculty member nor that faculty member's set of priorities. The student is preparing to work along side of that person in a complementary role. The strategy of a complementary role as a part of the payoff is seen as mutually supportive to both of the players. Since both players have a mutual background and experience time, they can work together efficiently without continued preliminary effort.

Summary

The analysis of the graduate program incorporated concepts developed in the games of strategy literature, the concepts of a closed and an open system and the assumption of rationality on the part of the players. These concepts are considered as appropriate only to the extent that the faculty and the students use rational strategies and priorities in planning moves to maintain a closed system of orderly replacement of faculty members or to maintain an open system of permanent availability of personnel for complementary professional roles. The student and faculty roles are currently being revised. These revisions seem to be related to an increased number of graduate students, a reduced student-faculty ratio, and increased social demands upon the university for both personnel and solutions to practical problems. The changing student and faculty roles seem related to a modification of the educational system to a more open system. The open system provides a situation of nontraditionally defined roles for all of the participants, and the development of various strategies and priorities of cooperation and competition between and among students and faculty members.

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DOCTORAL TRAINING IN SPECIAL EDUCATION: A SURVEY OF PRACTICES

Francis E. Lord

Approximately 3,000 doctorates are granted in all fields of education each year in the United States. The Doctor of Education degree constitutes about two-thirds of these degrees and the remainder are Doctor of Philosophy degrees. No reliable figures are available on the number of doctorates granted each year in the field of special education. We can, however, make a rough estimate. During the current year there are 339 post masters fellows receiving support from PL 88-926 as amended. If we assume this group constitutes half of the doctoral candidates in the field then we may have as many as 700 in programs. Furthermore, if we assume that a third of all candidates graduate each year, we arrive at a rough estimate of over 200 doctorates in special education each year. No doubt this estimate is too high.

The professional Standards Committee of The Council for Exceptional Children (1966) outlined in some detail the recommended structure of the doctorate in special education. The report describes the somewhat separate route for each of the two degrees, the Doctor of Philosophy and the Doctor of Education. It made a sharp distinction between the functions of these two degrees by identifying research with the Ph.D. and professional services with the Ed.D. Somewhat similar distinctions had been made previously in the writings of Kirk (1957) and Gallagher (1959). These three recent publications to the field have stimulated many critical discussions and a review of practices. These contributions were a major source of many of the ideas incorporated in this paper.

The survey being reported here (Lord, 1966) was concerned with the requirements of the doctoral programs in the 14 universities which received post masters fellowship grants in at least three areas of special education during the 1964-1965 school year. However, the data relating to individual programs are based upon the practices for the school year 1965-1966.

Some Common Practices

The degree plan of the 14 institutions is as follows:

Ph.D. only:	Ed.D. only:	Ph.D. and Ed.D.:	
Iowa	Colorado State	Columbia	Southern California
Minnesota		Illinois	Syracuse
Wisconsin		Kansas	Texas
		Peabody	Virginia
		Pittsburgh	Wayne

Some of the major requirement differences between the two degrees are:

1. Teaching experience is more likely to be required of candidates for the Ed.D.
2. In some cases, additional course work in education is required for the Ed.D.
3. There is seldom a language requirement for the Ed.D. (only one of the 14 universities required a language).
4. A minor in a related academic field is more likely to be required of candidates for the Ph.D.
5. The course work relating to tools of research is not uniformly higher for the Ph.D. It appears that six of the ten institutions which offer dual programs do not make distinction in such requirements.
6. The dissertation requirement for the Ed.D. departs from the usual requirement for original research which is common for the Ph.D.

The areas for concentration or for specialization for each of the institutions are shown in Table 1.

Table 1

Areas of Concentration in Relationship to Degrees Offered

		Admin. & Supv.	Learn. Disab.	Re-tarded	Phys. Hand.	Emot. Dist.	Vi-sion	Deaf	Gifted
(1)	Colorado State College	E		E			E		
(2)	Iowa—University of			P	P	P			
	Minnesota—University of			P	P	P	P	P	
	Wisconsin—University of			P	P	P			
(3)	Columbia University	E		P&E	P&E	E	E	E	E
	Illinois—University of	P&E	P&E	P&E				P&E	P&E
	Kansas—University of	P&E	P&E	P&E	P&E	P&E		P&E	
	Peabody College			P&E		P&E	P&E		
	Pittsburgh—University of	P&E		P&E	P&E	P&E	P&E	P&E	
	Southern California—University of			P&E	P&E	P&E	P&E		
	Syracuse University	P&E		P&E	P&E	P&E			
	Texas—University of	P&E		P&E	P&E	P&E	P&E		
	Virginia—University of			P&E	P&E	P&E			
	Wayne State University	P&E		P&E	P&E	P&E	P&E	P&E	

(1) = Ed.D. only (2) = Ph.D. only (3) = Ed.D. and Ph.D.

P = Ph.D. ; E = Ed.D. ; P&E = Ph.D. and Ed.D.

Two obvious facts related to special education may be noted at this point:

1. As many as seven or eight options are offered by some institutions. These areas parallel somewhat the certification or credential arrangement for teaching exceptional children.

2. If an institution has a dual degree program, more areas of specialization are usually available under the Ed. D. than under the Ph. D.

It appears that selected work outside the field of education is required more often for the Ph. D. than it is for the Ed. D. Some Ed. D. programs do not require course work in related fields. Unit requirements seem to be essentially the same for each degree in institutions which offer dual programs. Only one institution (Columbia) requires more units for the Ed. D. than the Ph. D. The requirements for each institution are shown in Table 2.

Table 2

Unit Requirements for Doctoral Program

	Ph. D. Degree	Ed. D. Degree
Colorado State College		90 quarter hours
Columbia University	75 graduate points*	90 graduate points
University of Illinois	8 units plus 8 units for dissertation**	16 units. No credit for dissertation
University of Iowa	90 graduate hours	
University of Kansas	Equivalent of 3 full years of graduate study	Equivalent of 3 full years of graduate study
University of Minnesota	3 academic years of graduate study	
Peabody College	108 quarter hours excluding research tools. 54 hours must be graduate courses	108 quarter hours excluding research tools. 54 hours must be graduate courses
University of Pittsburgh	90 units w/minimum 60 units of course work; 18 research credits	90 units w/minimum 60 units of course work; 18 research credits
University of Texas	No minimum set	No minimum set
University of Southern California	Equivalent to 3 years graduate work	Equivalent to 3 years graduate work
University of Syracuse	90 semester hours	90 semester hours
University of Virginia	No specific course requirements	Minimum of 78 semester hours
Wayne State University	135 quarter hours	135 quarter hours
University of Wisconsin	72 units	

* 1 point (at Columbia) = 1 semester hour
** 1 unit (at Illinois) = 4 semester hours

A year of residence or some equivalent block of time is somewhat standard, although the definitions of residency vary considerably. With one exception, the ten institutions which offer the dual program make no distinction between the residence requirement for the two degrees. The residence requirements for each of the institutions included in the survey are shown in Table 3.

Table 3

Minimum Residence Requirements

	Ph.D.	Ed.D.
Colorado State		3 quarters with 10 hours per quarter
Columbia	1 year	1 year
Illinois	2 successive semesters after M.A.	2 successive semesters or 1 semester plus summer
Iowa	1 year and 24 units	
Kansas	1 year subsequent to first year with 12 units per semester	1 year subsequent to first year with 12 units per semester
Minnesota	First two years or last year	
Peabody	3 consecutive quarters beyond M.A. and 2 quarters beyond adm. to candidacy	3 consecutive quarters beyond M.A. and 2 quarters beyond adm. to candidacy
Pittsburgh	3 semesters	3 semesters
Texas	1 year and 15 semester hours	1 year and 15 semester hours
Southern California	24 units	24 units
Syracuse	1 year	1 year
Virginia	1 academic year or 2 semesters	1 academic year or 2 semesters
Wayne State	1 year and 27 quarter hours	1 year and 45 quarter hours
Wisconsin	3 semesters with 9 credits per semester	

The research objective objective of graduate education receives major attention in the programs of each degree. There is little evidence that the objective relating to preparation for college teaching is receiving serious attention.

Selected Issues

Specialization. Professional education at the graduate level has been reported to have in excess of 50 fields of specialization. The choice of options in graduate education in the field of special education is rather impressive also. We just noted that some institutions offer as many as eight options at the doctoral level. Common options are retardation, gifted, emotionally disturbed, crippled, deaf, blind and partially seeing, and administration. (speech and hearing are not listed since these programs are not consistently reported as an offering in special education.) These major options parallel closely the certification pattern for teachers.

One can question whether our field has developed to the extent that a genuine specialization is available in all these fields. Specialization at the doctoral level implies a major, or at least a well-developed concentration of courses. It is appropriate to question whether a concentration of graduate courses is available in areas such as the crippled, the blind, and perhaps the gifted. It seems more appropriate to consider these minor or less well-developed areas as research areas rather than implying they are majors in the academic sense.

Graduate education in special education suffers from over categorizing, much like the public school services, and the list of categories continues to grow. Graduate education may have a unique opportunity to design some "professional umbrellas" which might encompass several categories. The term physical disabilities might well include the crippled, the blind, and perhaps the deaf. "Mental abilities" might encompass the retarded and the gifted.

Distinctions between degrees. The Ph.D. degree has been referred to as research orientated, while the Ed.D. has been considered service orientated or a professional degree. The Ph.D. degree has a number of historical features which it struggles to preserve. The Ed.D. is a compromise degree resulting from the pressures of professionalism and continues in some quarters to be a modified Ph.D., including at least one language. It does appear that the Ed.D. programs often operate under the shadow of the Ph.D. As a professional degree the Ed.D. has not had its full opportunity to realize its potential.

The research requirements in some programs are identical for the two degrees. It is difficult to see the alleged distinctions between the degrees clearly reflected in the requirements. At least five of the ten institutions with dual programs appear to have identical requirements in the tools of research. There are, no doubt, some differences in the application of research reflected in thesis or dissertation requirements.

1. Work in academic areas is more likely to be required on Ph.D. programs.

2. The Ed.D. candidate is more likely to be offered a wider choice of areas of specialization. Some institutions offer the Ed.D. in some areas without a parallel Ph.D. offering.

3. The prerequisite of successful teaching experience is more likely to be required for the Ed.D. In some cases more years of experience are required for the professional degree than are required for the Ph.D.

4. The units of prescribed course work may be greater for the professional degree.

The Ed.D. has to struggle to avoid the criticism of being a second class degree. It is suggested that the professional degree should face up to its primary mission and concentrate upon a few essentials of a strong professional emphasis. The following lines of emphasis should be considered:

1. A continuous residence of two or three years should be required. Continuous study would provide strength and depth to the program of study.

2. Field assignments and internship should be built into each program and perhaps require an extra year of residence. Practical experience, in combination with theory, is a primary essential of a good professional. The field of medicine is a good example of this practice.

General Observations

The goal of preparation of college teachers at the advanced graduate level is far from being realized. One sees little evidence that professional degree programs have accepted this challenge. With the introduction of fellowship programs, the opportunity to learn through the role of teaching assistant has been greatly reduced.

Some fellows have reported that they did get some teaching experience when they took over classes while their major professor was off campus. While this is a valuable experience, it is not a substitute for a well organized assignment relating to college teaching.

It seems fair to generalize that the worthy goal of preparation for college teaching is secondary and incidental. Unfortunately, this seems to be true of the professional degree programs which should have some serious commitments in this direction.

Graduate students would appreciate more opportunity to know their campus "professional idols." Professors' off campus obligations have increased in recent years, and little has been done on campus to compensate for the change. This problem should be the concern of each campus, and some adjustment to realities should be made. Perhaps some professions should be regularly campused for at least one quarter each year.

The investigator is interested in the university climate for creative research. There is little doubt that the stimulation to do research is more than adequate. If one ignores the doctoral candidates economic concerns and family pressures, which are often very consuming, and focuses upon academic and professional pressures, one can question whether the climate is conducive to creative scholarship. The heavy pace, the unavoidable delays, the uncertainties become major burdens. If one focuses up the ideal environment which would permit a maximum degree of self discipline and maximum opportunity for a little room for the creative spirit to plan, then certainly the existing environment is open to question. No doubt there is over emphasis upon course work, especially for the very competent and mature student. Instructors tend to want to escape the burden of guiding independent study. The student often has to play safe and take certain courses whether he thinks he needs them or not. A colleague reported that he and his advisor had overlooked a required introductory course on his doctoral program. The omission was discovered at the final check before graduation. The institution agreed to forgive this "great" error, provided the student would pay the tuition for the missing course. He did and the reputation of the institution for excellence was upheld with honor.

Concluding Statement

Traditionally, the requirements for doctoral programs, especially the Ph.D., have been very flexible. Also, degree requirements have often been related to the unique history and academic traditions of the institution granting the degree. This flexibility and these variations can be defended as being in the best interest of graduate study. There is no appeal in this report for more uniformity or standardization of practices. Each institution should build its own program within the prevailing tradition for strong scholarship and creative research. Perhaps the biggest challenge to special education is development of greater strength in our professional degree.

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ABSTRACT

PREPARATION OF SPEECH AND LANGUAGE CLINICIANS: THE VIEW OF THE SCHOOL CLINICIAN

Gloria L. Engnoth

It has been reported that in the United States today more than two million school children require the services of trained speech and language clinicians. The current status of the speech pathology and audiology programs in the nation's school systems is largely determined by the competency of the professional persons employed. To determine how clinicians evaluate their competency to perform their duties, national and local studies have been conducted.

In 1961, the American Speech and Hearing Association in cooperation with the US Office of Education, Department of Health, Education and Welfare conducted a research project to ascertain the administrative and technical problems facing persons concerned with speech and hearing therapy in public schools. One aspect of the study was the analysis of professional standards and training. In evaluating their training in theoretical courses and clinical practice, clinicians reported that:

1. Their training in the areas of articulation, hearing testing, normal speech and language development, and child growth and development the clinicians felt was adequate.

2. Their training in the theoretical aspects of organic speech disorders and procedures involved in setting up remedial programs in public school was inadequate.

3. Their supervised clinical practice in the management of stuttering cases was deficient.

The survey further reported that a majority of clinicians favored a five year minimum training requirement for a speech and hearing certificate.

Six years have passed since the publication of this study. In an effort to report current evaluations of clinicians of their preparation for conducting therapy in the public schools, a small survey was conducted by the Department of Communication Disorders of the Baltimore County Public Schools. Since a clinician's evaluation of himself and his training are influenced by the area in which he lives and works, the organization and philosophy of the school system that employs him and the number, type, and degree of severity of cases he schedules for therapy, background information regarding these factors will be presented.

The results of the study indicate that our clinicians feel that their strengths based on training lie in:

1. Working with disorders of articulation.
2. Conducting and interpreting basic audiometric testing.
3. Establishing rapport with pupils and members of the professional staff.
4. Adequate theoretical preparation for therapy.

They report that their weaknesses lie in:

1. Insufficient clinical practicum with children having disorders of speech associated with voice, stuttering, language disability, cleft palate, and auditory impairments.
2. Insufficient training in organization and management of speech therapy programs in public schools.
3. Conducting successful counseling programs with parents and teachers.

To improve programs for preparing clinicians for conducting therapy programs in the public schools, the following suggestions were made. Clinicians should receive:

1. Extensive preparation in the theoretical approach to speech disorders.
2. Increased supervised clinical experience with all types of disorders.
3. Experience in case management with children as well as adults. This experience should include work with groups as well as individuals.
4. Supervised training in conducting counseling sessions with parents and teachers.
5. Preparation in establishing speech and hearing therapy programs in public schools. This should include:
    a. Familiarization with the framework of public schools.
    b. Familiarization with processes of education and goals of elementary and secondary schools.
    c. Educational tests and measurements and their implications for the therapist.
    d. Organization and management of the speech and hearing therapy program as a part of the framework of the educational system.
    e. Clinical practice conducted in the schools.

Finally, much of the above can be accomplished by requiring five years of preparation. Our clinicians also feel that a more adequate clinical practicum may be established by providing for a rotating internship during the fifth year of preparation. This rotation would provide experience in college clinics, diagnostic and rehabilitative hospital clinics, and the public schools.

INFORMATION SERVICES

A STATE REPOSITORY

Gloria Calovini

It is estimated that about 2,000 visually handicapped students are enrolled in the public, independent, parochial, and private schools and colleges in the State of Illinois. Until recently, each school district, library, or college student has attempted to secure and maintain its own source and supply of educational materials particularly adapted for use by the visually handicapped.

In June, 1965, legislation was enacted by the State of Illinois to provide the Office of the Superintendent of Public Instruction with authority to act as a coordinating agency. This legislation also provided authority to provide staff and resources for the coordination, cataloging, standardizing, production, procurement, storage, and distribution of educational materials needed by visually handicapped children and adults.

In March, 1966, the Office of the Superintendent of Public Instruction was selected as one of the ten material centers approved and funded by the US Office of Education's Research and Demonstration Branch. One phase of this project was to demonstrate how a State might provide assistance in the location and production of specially adapted materials, as well as to field test and evaluate various educational media which can be used most profitably by the visually handicapped.

School districts were asked to participate by taking an inventory of all existing material and putting on loan to the center any material which they were not going to use during the current school year. Response to this request was gratifying, and as soon as the center was established in Chicago, hundreds of books were received to be put on loan.

Simultaneously, a conference for volunteers was held to explain that a central coordinating agency now existed. Since part of the total plan involved securing from volunteer agencies materials which were not commercially available, these people were invited to discuss the standards of production which should be maintained for such material. The compilation of production standards and equitable financial rates became the responsibility of working committees.

In September, 1966, professional personnel actively engaged in education of the visually handicapped were invited to attend an institute funded under Public Law 88-164 through the State Department of Education. These teachers were asked to make recommendations concerning how the unit might function most effectively. This conference also provided an excellent opportunity to explain what services the center was already able to furnish.

In March, 1967, the working committees on production standards and financial rates presented their formal recommendations. These recommendations were adopted by the Advisory Committee, and representatives of volunteer agencies were again invited to a conference to become familiar with these guidelines.

As we end our first year of operation, we have asked teachers to anticipate which materials they will need for next year. These materials are ordered from commercial houses wherever possible, but items which are not available will either be made at the center or contracted for with volunteer agencies. A Textbook Priority Committee, appointed by the Office of the Superintendent of Public Instruction and representative of a cross section of school administrators, public and private, as well as state agencies and volunteer agencies, comprise the committee. It will be their responsibility to establish a priority list for items which must be produced by hand.

At this time we feel that the center has been very successful and that every school district maintaining a special program for the visually handicapped has used the services of the center in one way or another.

THE ROLE OF REGIONAL EDUCATION LABORATORIES AS THEY RELATE TO RESEARCH AND DEMONSTRATION IN SPECIAL EDUCATION

Benjamin Carmichael

The Appalachia Educational Laboratory (Charleston, West Virginia) is taking a four step route to the accomplishment of a broad mandate to introduce change in education in the Appalachian region: (a) by assessing the needs of the region through the widest possible search; (b) by utilizing research either by designing and conducting new research or by reaping the results of previous research; (c) by implementing the findings of research through the design or redesign of teaching techniques and materials; (d) and by devising and employing dissemination techniques which will insure movement toward sound educational change.

Laboratory Goals

The first goals established for our laboratory were: (a) to reduce the negative effects of cultural deprivation, (b) to assist in the modernization of school curriculum, (c) to combat regional isolation, (d) to improve the transition from school to work, (e) to raise the general level of educational aspirations and expectations, and (f) to speed the adoption of sound educational change. Those were reviewed by persons who formed the structure of the laboratory as being the most important goals that could be established for our laboratory.

I want to discuss special education in the Appalachia region and also the important things that I see on the national level which would help us define the role of special education laboratories.

First, special education is now included in the Elementary and Secondary Education Act as a separate thrust. Also, there is a special bureau for special education at the federal level which, in a sense, established it as a separate thrust or has a special emphasis for it. I mention this only because some of the outcomes of that sort of thing will become apparent further on in this paper. But this might lead you to the point in considering that there should be established a national laboratory for special education.

The system of regional laboratories, consisting of twenty at the present time, has been discussed. Being established are national laboratories—one, already, dealing with the preschool child. There will be six national laboratories. It occurs to me that there could be nothing more important than a laboratory which conducts research and passes on to us the things that are needed so much in the field of special education. This, to me, is a consideration.

Dissemination among laboratories is not functioning properly. We have an inner-lab newsletter, and I put a request in it for information about anything the laboratories were doing in special education. I didn't get a single response. Then, I wrote each laboratory separately and got seven responses, all saying that nothing is being done. No laboratory has adopted a specific thrust in the field of special education.

General Versus Specialized

As indicated already, we've been torn between a very general type of institution to work in many areas and an institution which concentrates in working in just one or two areas. Now, there's a very strong basis for working in just one or two areas, because we should be going deeply enough to make a difference. After all, the laboratories are established to effect change, which is one of our greatest problems. If, as a laboratory, we spread through an area where everyone else is already working, we won't make any more difference than we have been making in our school systems, state departments of education, colleges of education, and schools of education, etc., just because we're called a laboratory.

The two thrusts that we are trying to push in Appalachia are: first, to smooth the transition from school to work including proper preparation for profitable employment. (The closest our laboratory would come to the field of special education would be to take it back to the work-study programs that are being introduced in special education.); and secondly, to develop programs in the area of communication for developing basic language, as well as to establish contact with and to get information into and out of our region about education and educational change.

As a laboratory with these two kinds of thrust, we have not launched an emphasis which is very closely related to special education. It can be done but you must consider whether or not you're the institution that should be doing it and whether or not you could do it satisfactorily to make the breakthrough that you want.

In relation to this, I also wrote each director of special education in our six states: Pennsylvania, Ohio, Kentucky, Tennessee, Virginia, and West Virginia. I got four responses from them and talked with three of them. I wanted to see how we are thinking of the field of special education and whether or not we had any ideas that would lend themselves to working in a laboratory program. Our conclusion was that there aren't many things in the field of special education that would lend themselves to a laboratory thrust, inasmuch as they are service efforts in the field of special education, and everybody is already working on those. A laboratory is not a service agent, as such. There are service agencies working already: a school system, a state department, a college. In order to involve ourselves in working in the field of special education and to make a real contribution to it, we would be seeking a leap-frog kind of effort where we could really make a difference.

Reports from the states indicated that the difference between the states offering the best services in special education in our region and offering the poorest services is very great. For example, one school system of just a few thousand youngsters in one state has more in this area than another entire state has. We have a state that increased its number of classes by fifty percent last year, primarily because of Title I, yet that same state still needs 800 classes for the educable mentally retarded.

I know that you're very busy preparing for your Title VI. There again the state that has good, sound basic support is putting Title VI funds into the enrichment kinds of things, the kinds of things that will probably change special education more than anything, whereas those that are having to have to put those kinds of funds into the basic support are going to struggle through the same kinds of things that other states do.

Both groups, whether using the funds for the enrichment, "icing" kind of thing or for basic support, indicate that the greatest problem is having more and better trained teachers in the field.

As far as a laboratory's working in special education, the strongest implication would be virtually to concentrate all of our efforts in the field so that we'd make a difference.

Generally, the kinds of things that were recommended to me were not of that nature. They are still of the general service nature. I indicated that so far as our laboratory's concerned, the work-study programs which are developing are very closely related in Appalachia to a thing that we've got to be concerned about; in fact, I'm sure we've already been working with youngsters who may not have been in a work-study program, but would have been if we'd had such a program available to them through our special education classes.

We have tremendous implications for our dissemination program. Our region needs to know the best practices. We have a responsibility for taking the practices to them. We have a responsibility for taking all kinds of information to people in our region to introduce change.

We very definitely need to band ourselves together as groups to survey where we are as a region. We may be in an excellent position. And then, lastly, we must keep searching for not the service or even innovative kind of thing but for the inventive, leap-frog kind of approach into serving in the field of special education.

THE COOPERATIVE EDUCATIONAL RESEARCH LABORATORY AND ITS RELATION TO EXCEPTIONAL CHILDREN

David Jackson

This paper will discuss the following: (a) the national program of educational laboratories; (b) initial attempts in our Cooperative Education Regional Laboratory (Urbana, Illinois) to start a program; and (c) the tenuous connections between our program and research and demonstration in special education.

National Laboratory Program

Twenty regional education laboratories have been established by the Office of Education, under the authority of Title IV of Public Law 89-10. The laboratories are concerned with linking educational research and practice in the schools. Their major thrust is not to produce more research findings but to employ the results of significant research in ways which will improve the quality of education on a large scale.

The implications of those words are quite sweeping. Each laboratory serves a region, usually in two or more states, with a population of several million people. The typical form of laboratory organization is as a nonprofit corporation, governed by a board of directors whose members are leaders of business, civic affairs, labor, and cultural organizations, as well as education. The program of each laboratory is related to an assessment of the needs of the particular region and of the nation. There is no existing institution which is adequate to serve as a model for these laboratories. Neither is there any fully articulated and logically consistent theoretical model to which the laboratories conform. Thus, in a very true sense, the national program of laboratories is experimental. It's a kind of experiment which will require several years and many millions of dollars to test. It's not a small idea which can be tested in a pilot way, especially after twenty of these animals have been born. The only small scale way I can see to test it would have been to start a few laboratories and support them adequately; but since the government has chosen to start twenty, it will be an expensive venture (though not in terms of our race to the moon).

All of these laboratories are new social institutions seeking in diverse ways to work with existing agencies, including local and state education agencies, colleges and universities, corporations, and others. Problems are being attacked which will require a combined set of resources. Not only several years, but also a tremendous amount of skill and ingenuity will be required to succeed in making these disparate elements fit together in any kind of a system.

Illinois Regional Laboratory

Now, to turn to our initial program: We're concerned with where we might find the personnel to fill the many intervening roles between research and practice, such roles as applied researchers and demonstration personnel. The current Office of Education sponsored project, David L. Clark and John Hopkin's Roles for Researchers, Developers, and Disseminators, indicates that between now and 1972 over 40,000 full-time equivalent personnel will be required to fill the emergent research and development roles, necessitated only by federal and foundation supported projects. Our laboratory has chosen two of these middle-man roles for our immediate attention, the leader of continuing education for teachers and the evaluator.

By June, 1968, we expect to have produced three kinds of products. The first category of products is personnel: (a) a small number of trained personnel—perhaps thirty leaders of continuing education who would be skilled and experienced in feedback and self assessment procedures for working with teachers and who would be skilled in using systems of feedback as methods of changing teacher behavior or helping teachers to change their own behavior; and (b) at least ten evaluators skilled and experienced in evaluative functions which are appropriate for local settings.

Our second category of products will be materials. We are preparing a series of self contained packages which are designed to help teachers in several ways: (a) to help teachers use Flander's System of Interaction Analysis; (b) to help teachers write and score several types of new examination questions, particularly questions which require analytical thinking, evaluation, and synthesis; (c) to help teachers identify students who are capable of carrying on independent study; (d) to help teachers identify students who do not seem to be capable of carrying on independent study, to diagnose the reasons for their inability, and to propose differential treatments to help them; and (e) to help teachers manage small group learning situations as required in Suchman's inquiry training, do inductive teaching and gain responses from nonverbal children. Each of these packages is expected to contain tape recordings, 8mm or single concept films, test instruments and scoring guides, and selected readings.

A third category of products is an interpretive summary of the data we expect to get from the followup of the role performance of the individuals whom we have trained in the summer of 1967 in their jobs as leaders of continuing education or as evaluators during the 1967-1968 school year. From this analysis of their performance on the job, we will find out whether there is either congruence or lack of congruence with the job description which we've employed as a basis for selecting and training them.

Relation to Special Education

How might this relate to special education? Results of a three year demonstration project for the gifted of which Bill Rogge and I are the directors, the Demonstration Project for Gifted Youth, are just becoming available. These results indicate that demonstration efforts, based in a university and a state education agency and involving a number of demonstration centers in different schools, can contribute to an increased awareness of what can be accomplished. Demonstration programs alone, however, do not seem in most cases to be effective in influencing visitors to begin action programs of their own. Thus, this project is a limited success and a fairly large scale failure because it did not meet its most important objective, that of program improvement on a broad scale.

It did, however, teach us something about this kind of an effort. We now believe that a much more comprehensive system is needed in which we seek to relate several components. In this system, demonstration would be combined with development in which research findings are synthesized, researcher's instruments are adapted for school use, and practical methods of inservice education for teachers are used to support the total system. Thus, if we form any more new centers, they would not be called demonstration centers, but might be called "service centers" to emphasize the kinds of help they can give to the schools in their region. The costs of operating such a comprehensive system will be substantially greater than the fifty to sixty thousand dollars per year spent under the Demonstration Project for Gifted Youth.

We hope that our efforts to define, develop, field test, and disseminate a system for preparing inservice leaders and evaluators would provide useful support for research and demonstration in special education as well as in other fields. Several local education agencies, including Title III projects and the State Education Agency in Illinois, through the Department of Program Development for Gifted Children, have joined with the laboratory staff in the many tasks involved in our program. In addition to financial participation in the development costs, these agencies are contributing personnel time to work on program development.

At the close of our first development cycle in June, 1968, we will be looking for help from special educators and others to carry on a second generation effort in which field testing and followup will continue to be central features, and we hope that we can be in touch with you at that time to offer something you will find useful.

REGIONAL EDUCATIONAL INSTRUCTIONAL MATERIALS CENTERS: THE ROLE OF THE US OFFICE OF EDUCATION

George M. Olshin

The origin of the concept of Instructional Materials Centers (IMC) was officially formulated in 1962 as a result of the findings of a Presidential Task Force. The ideas were developed after task force members learned of advances made by special education teachers in some European countries in the development of instructional materials. The basic purpose of such a center was to provide special educators and allied personnel with ready access to instructional materials and information related to the education of handicapped children.

Early Development

In 1964, the Research Branch of the Handicapped Children and Youth Division in the US Office of Education funded two pilot instructional materials centers. Early in 1965, the US Office of Education felt that the success of this early effort warranted expansion of the program. This advance was approved by an IMC ad hoc advisory committee which was established to advise the US Office of Education. The plan included the development of a sufficient number of regional centers which would form a national network of instructional materials centers. Fifteen regional IMC's were envisioned.

Late in 1965, a systematic attempt to attract proposals for such centers was undertaken.

Objectives

The objectives and activities of these centers will be accomplished in three phases, described in probable order of development.

The first phase, which relates to a service function, includes:

1. Acquisition of commercial and teacher prepared instructional materials.
2. Describing, classifying, and cataloging of these materials.
3. Dissemination of these materials to consumers.

The second phase, which relates to a research and development function, includes:

1. Evaluation of instructional materials.
2. Development of new materials.

The third phase, which relates to a stimulation of production function includes:

1. Contacting organizations that have a material production capacity and inviting them to produce materials found to be effective in the research phase. These producers might be sheltered workshops or commercial publishers.
2. Consulting with producers on ideas that they believe have merit.

The results of these activities will be to serve teachers in a manner never conceived of before. At the present time we know very little about the actual worth of many of the available instructional materials. The IMC's will provide information, materials, and consultation to teachers, and will make it possible for teachers to discriminate between poor and adequate materials. Activities of the IMC staff will include teacher training institutes and workshops, and consultation with state departments of education and local school systems to aid in the continuous inservice training function that these organizations now have. The staff will also visit school systems, colleges and universities, residential schools, and other agencies that might be consumers of instructional materials to aid them in the development of materials which may be used with children having specific learning disabilities.

Several centers have developed regional publications and will cooperate in the development of a national publication so that current information about instructional materials will be available to all teachers.

One of the most important activities will be the joint effort between IMC's and teachers in developing new instructional materials from ideas conceived by the classroom teacher. It is hoped that this development may take place with the cooperation of commercial producers. It is not expected that the centers will be involved in the actual production of materials, as this should be the function of commercial producers.

Funded Centers

At present, the US Office of Education has funded the following ten instructional materials centers.

Center	Area Served
Michigan State University, East Lansing	Michigan, Ohio, and Indiana
University of Wisconsin, Madison	Wisconsin
American Printing House for the Blind Louisville, Kentucky	Nonregional

Center	Area Served
Colorado State College, Greeley	Colorado, Montana, Wyoming, New Mexico, and Utah
Department of Special Education, Superintendent of Public Instruction, Springfield, Illinois	Illinois
University of Texas, Austin	Texas, Louisiana, Arkansas, and Oklahoma
University of South Florida, Tampa	Florida, Alabama, Georgia, Mississippi, and South Carolina
University of Oregon, Eugene	Oregon, Idaho, Washington, Alaska, and Hawaii
University of Kentucky, Lexington	Kentucky, Tennessee, North Carolina, Virginia, and West Virginia
University of Southern California, Los Angeles	California, Nevada, and Arizona

Major considerations in the selection of centers by the advisory group were:

1. They would afford adequate geographical coverage.
2. One or more areas of exceptionality would be emphasized in the collection of materials.
3. Guidelines for coordination and cooperation among centers were to be delineated.
4. Coordination with other institutions and organizations such as colleges, universities, state departments of education, professional associations, local school systems, parent groups, regional educational labs, and ERIC Clearinghouse on Exceptional Children was to be realized.

New Centers

Four new centers will soon be announced and will service areas of the country not yet served. It should be understood that the centers are in various stages of development. Some are already serving teachers in their regions but others are not yet ready. When the centers are operational and service becomes available, they will make announcements to interested persons such as teachers and college students, as well as agencies within their regions.

Editor's note: Since the presentation of this paper at the convention, the four new centers have been announced and have begun operation. They are:

Center	Area Served
1. Boston University, Boston, Massachusetts	Massachusetts, Connecticut, New Hampshire, Maine Vermont, Rhode Island

Center	Area Served
2. George Washington University, Washington, D. C.	District of Columbia, Delaware, Maryland, New Jersey, Pennsylvania, Virginia
3. University of Kansas, Lawrence	Kansas, Iowa, Missouri, Nebraska, North Dakota, South Dakota
4. New York State Department of Education, Albany	New York

Current Planning and A Glimpse to the Future

The growth of the program from two pilot regional centers to ten (and soon to be 14) is the attainment of one major phase of the US Office of Education's plan to develop a comprehensive IMC network. Regional centers are generally distant from most school systems. In order to serve the individual teacher in a region better, it will be necessary to develop a comprehensive satellite system which would include subcenters. The regional center will serve as a nucleus for the development of associate and service centers.

An example of an associate center might be one organized and operated by a state department of education. Such a center would make it possible for a state education agency to perform better the services they now offer (or should offer) to their teachers. Specifically, that service will be aimed at upgrading teacher competencies. These centers will have the instructional material resources and trained personnel to conduct the workshops and institutes that are important to the continuous education of teachers.

The demands for service from associate centers could be so great that another administrative level of service would be needed; this would be the service instructional material center. The service IMC could be located at a college or university, or in a residential or public school. Geographically, the service center should be located close to the consumer. The service center could be used as a local library, where materials could be loaned easily and professional help obtained by a local telephone call.

When the regional, associate, and service centers are functional, and teachers or allied personnel have easy access to an IMC in their immediate geographical area, then the framework of the IMC network will be complete. The extent of this program and the number of personnel involved will be great. There will be 14 or 15 major regional centers, 50 associate centers radiating from state education agencies, and if there are three to five service centers in each state, there could be as many as 225 facilities employing hundreds of personnel to serve many thousands of special education teachers and other teachers who request help.

The satellite IMC's will probably receive financial support from other sources of federal and local funding. The satellites will have a representative sample of instructional materials and aids, making them miniatures of the regional centers.

Planning for such a comprehensive program is now progressing. Regional centers are involved in the development of associate centers. Several major centers have been initiated at the state level (one in Illinois and one in another state soon to be announced). These in turn are actively planning service centers. Consumers will be notified as centers become operational and service becomes available.

Conclusion

The first major growth stage of the IMC program is just about completed. The centers are now moving forward, rapidly developing their centers, and aiding in development of associate and service centers. The resources of your government are now being used to bring a major service sorely needed by teachers of handicapped children and youth. Suggestions to the centers about how service might be improved will be welcomed.

AN EDUCATIONAL LABORATORY IN CENTRAL MIDWEST: CHANGES FACED BY EDUCATIONAL LABORATORIES & PROGRAMS RELATED TO EXCEPTIONAL CHILDREN

Faye H. Starr

My presentation will be in three parts. First, I shall talk about the organization of a central midwestern laboratory which has its central office in St. Louis. Secondly, I shall discuss the transition that all of the laboratories seem to be faced with. Thirdly, I shall mention a few specific programs that deal directly with exceptional children.

CEMREL Organization

The Central Midwestern Regional Education Laboratory, Inc. (CEMREL) received a charter to operate in the state of Missouri in November, 1965. This was prior to any funding from other than local sources. The stated purposes of this corporation are: (a) to engage in such cooperative education research development training service and dissemination activities to the improvement of private and public elementary, secondary, and higher education in the region served; (b) to implement all aspects of Public Law 89-10, Title IV, and such other titles for the planning and operation of an educational laboratory operating as part of the national program of educational laboratories; (c) to implement any and all appropriate aspects of any subsequent legislation related to complementing, extending, or in any way modifying the national program of educational laboratories authorized by Public Law 89-10, Title IV; and (d) to take whatever other action is appropriate and necessary to further the purpose of improving private and public elementary, secondary, and higher education, both in the region served and in the nation.

This particular laboratory embraces a region which is described as the eastern part of Missouri, southern Illinois, the middle part and western part of Kentucky, and middle and west Tennessee. This embraces a population basis of something like 10 million people, about three million children, and at the present time the funding level of the laboratory can be thought of as operating on thirty cents per school age child per year. This is elementary-secondary, which is not very much when you start thinking about all of the impact that is contained in the wording of the purpose of such an organization.

Major Concerns. We think there were three major concerns that guided the planning and the design and the development of this laboratory. First, we felt that the organization should be designed so as to make it possible to bring the intellectual, scientific, educational, and cultural resources of the region to bear on this wide range of educational problems that the public and private schools face. We tried to design the organization to maximize the dialogue that we hoped would be established among these various components of the educational community, hoping that we could bring about a closer relationship between the researcher, the scholar, and the practitioner. We hoped that the concerted efforts of all these different people would bring about a situation which would hasten the educational process and shorten the gap from the time of discovery until the time something is implemented in the classroom.

We have come to think of this as an operating technique which we thought would be a high involvement (but necessarily self sustaining) device. We initiate and we are a catalytic agent in this sense. We get the dialogue started, but we want to be different from certain foundations which have been known to get things started. Everything is spoken of in glowing terms and then, when the money stops, the practice ends and people are found going back to their previous behaviors.

So, as we went about this task, we tried to make an assessment of the needs of the region and then organize accordingly. It seemed to us, as we made the assessment and got the feedback from the region (the way the people felt and what they thought their problems were), that we could organize in seven compartments; that is, we could classify the problems under seven headings. We felt that there were concerns about curriculum. There were concerns about learning—the learning process, the learner as an individual—and there were concerns about the processes of instruction. There were concerns about urban educational planning and rural educational planning, so we think of this as urban and regional. School organization seems to be an area of concern to some of our people, as is the process of innovation and diffusion, and the best use of personnel —the development of personnel—variously referred to as teacher training, inservice training, inservice education, etc.

The second idea that guided the planning of the educational framework was a concern over how we could bring together those existing widely divergent organizations and institutions into a strong working relationship. Therefore, we thought that the board of trustees or the board of directors ought to be broadly representative of these different kinds of organizations which exist, in order that they, as individuals, might work with us and provide the kind of leadership that we would need, and also at the same time provide some sort of a power base. We felt that these people—if truly representative of the kinds of institutions and organizations which existed—would provide us with this type of leadership.

Thirdly, we recognized that any organization such as this had to have some flexibility attached to it, so we tried to design it in such a way that it could shift and reorganize, if necessary, to bring about a better and more efficient operation. We wanted to avoid setting up a highly centralized bureaucracy, and we wanted, therefore, to approach this on a relatively decentralized basis. This called for a fairly small central staff, with some dispersed area offices for greater access to the researchers and scholars who are out in the region.

We do plan centrally. We have coordinating activities in the realm of training and development. The budgeting and other coordination are centrally operated but, at the same time, the majority of the work was designed to be carried out by people who are in affiliated institutions.

We have worked out arrangements, joint shared time relationships, with people who are working in the established institutions. One of the reasons behind this was that we didn't see any way that a new organization could come into existence and be a heavy drain on resources that are already lacking. There's already a manpower shortage. So we thought that at least for the first few years it would be appropriate for such an organization to work with people on a shared time basis.

We thought of the laboratory as being mutually owned by researchers, developers, scholars, innovators, teachers, administrators, and other people in the region, if it was to be successful in bringing about change in school practices in the region. We thought that this was vitally important, and therefore we conceived of the laboratory as not consisting of a large facility where people were working in white coats, but rather as consisting of the schools, colleges, and universities, and the people who operate them. We think that the real test of what is accomplished in our laboratory is going to occur in the classroom.

Board of Directors. Our board of trustees, or board of directors, come from all four states. They serve as policy making body, and they have the final legal authority in operational, legal, and business affairs. These people serve not as institutional representatives, but as individuals. They come from public and private colleges and universities, public and private schools, and state departments of education. Represented are school teachers, school board members, superintendents, and persons of a supervisory category. We have some representatives from cultural organizations, industry, labor, and the general public, not otherwise embraced.

This provides us with a rather unwieldly number, fifty board members. We felt that there had to be a smaller number that could take quick action, so we have an executive committee which is made up of four officers and four other persons of the general board. In other words, there is a chairman of the board, a vice chairman, a secretary-treasurer, and then the nonvoting executive director plus four other members. This is the quick-action group of the board.

As an independent, nonprofit corporation, we thought that the laboratory should complement, reinforce, and extend the best work of the existing institutions in the region, as well as inaugurate a comprehensive program of its own.

We're trying to work with institutions and on a cooperative basis. Areas of concern that I mentioned earlier have been approached—the curriculum, for example. We have a curriculum committee, and we have selected people from the region who are knowledgeable and yet representative of the different kinds of components, the practitioner, researcher, scholar.

We have a committee for each of these seven areas, and the committees work directly with a staff member, and the seven committees are grouped under three associate directors. We have an associate director for research and development in the area of classroom teaching and learning; three of those committees serve with the associate director. We have an associate director for systems design and application; two committees work there. My function happens to be that of innovation, diffusion, and personnel development, and two of those committees serve with me.

The committees are not staff members. They are out in the region, and they serve in an advisory capacity. They make recommendations. We gather information data about the region; we feed it to them; and they make recommendations as to what they think we should do in the area of program.

Then, in our area offices (St. Louis; Carbondale, Illinois; Memphis, Tennessee; Nashville, Tennessee; and Bowling Green, Kentucky), we have renamed our area coordinators as assistant directors for program implementation. These man the area offices, and they have the contact with the people of a particular area.

Educational Laboratories: Regional or National?

The Regional Laboratories seem to be operating under a certain amount of ambiguity which, in turn, seems to have at least part of its origin in two different approaches, which seem to be almost diametrically opposed to each other. As recently as February, 1967, Louis Brack, Associate Commissioner for Research in the US Office of Education, said that the primary function of the regional laboratories is "to take the findings of research, to develop, field test, administrate and disseminate.

For this reason ... we have insisted that the boards of directors of regional laboratories be representative of the entire educational community." If the regional laboratories are vehicles of development, demonstration, and dissemination, then it would seem to me that we could expect to see much duplication of effort without any eyebrows raised as the laboratories execute this primary function.

However, at the same time that Dr. Brack was making this statement, other advisors and staff members of the US Office of Education were saying and indicating that they think that the regional laboratories should be almost immediately molded into a single system, a single national system, in which each laboratory would focus upon a major concern with no duplication of major concerns among laboratories. In other words, if you think of this as a pie design, each piece of pie would be a little bit different. As gaps in the system are noted, either a laboratory would be encouraged to move in a certain area, or another laboratory would then be established.

There aren't many examples that operate, I agree, because these are new organizations, and as new nonprofit organizations there should be quite a bit of variety in the organizational structure. But it does seem to me that people, when given an example as a partial analogy, begin, after having accepted it as a partial one, to think of it as a total analogy.

The one we seem to have heard the most of recently is the Air Force model. Most of us are familiar with this because here a single research and development system—a national system—is developed, which feeds its results into a single national system. There is one Air Force, and therefore the components of this national system have pretty much these single tasks. One air base is designated with the primary task of field testing. Another has a primary function of personnel Training. Another has the primary function of developing the curriculum packages (which we used to call units—the Air Force says footlockers or materials to go into training.

As a gap is noted in this system, something new comes on the scene. Therefore, one of the fields or air bases is encouraged or designated, in this case, to pick what has been missing, or other appropriate steps are taken to assure that there is no longer a gap in the system. Notice, now, that in this case the duplication of effort is minimized and the results are fed into a single national system.

I propose that there may be another way of looking at the regional laboratories which changes one's outlook or concern about duplication of effort. For example, there is the Port Authority model. Here you might find much diversity in organizational structure, much diversity in the kind of territory served, much diversity in the number of states involved, and much duplication of effort. The New York Port Authority, for example, operates in parts of three states, but each of these states has its own department of transportation and its own department of highways. Nevertheless, a need for coordination was observed, and this brought into existence the New York Port Authority.

Much of the activity that is observed in the New York Port Authority may also be observed in Los Angeles, New Orleans, or Tampa, and no one is concerned about the duplication of effort, and the reason being that they know that this organization serves a certain geographic region. Because of its service to the region, they expect some duplication of effort.

If people began to think of the regional laboratories as a single system, then they would get upset because the laboratory that I work with is doing the same thing that the laboratories that Ben Carmichael or Dave Jackson head are doing the same things. These things, of course, will have to be resolved in time, and probably will before too many years pass. But it does appear that the model selected will greatly influence the direction of the regional laboratory program.

Two CEMREL Projects

As I have reviewed the program of this convention, I have come to the conclusion that almost everything we have been engaged in actually has relevance to exceptional children. However, I have chosen to mention only two, for the sake of time. Therefore, I would like to indicate a couple of things that we're doing and give you the rationale behind them. We feel that education is too complex and too important to perpetuate the study of its components in isolation. We feel that the components of education, after separate analysis at the early stage of problem-solving, must be analyzed eventually in the context of the learning situation. After all, learning does not occur in a vacuum. We don't think we know enough about the learning process in its applied form or the relation between the instructional process and the learner, or the curriculum materials that are best suited for certain specific learning outcomes. And we are therefore trying to find where some of these gaps are. We are trying to make ourselves into a task oriented laboratory, where we can look at the total picture and can try to bring about a systematic approach to the educational problem solving.

Having identified some of the gaps and having started some researchers working on them, we want to be able to look at educational outcomes in the sense of objectives, and then begin planning to bring about these objectives and revise and build and retest until the educational materials, the instructional methods that are used, will help us to bring about these goals.

Longitudinal Study. The first project I'd like to describe is a longitudinal study. It is pretty basic in some respects. In an effort to learn more about children with learning difficulties and to give them the best possible chance in education, we are conducting a study of babies whose prenatal periods (or during delivery or perhaps in early infancy) may be regarded as adverse when compared with those babies who have not had these same difficulties. We think that there is a good reason to consider this background with these children and we want to find out whether certain of these effects are reversible or not. If they're reversible, we want to know about it. The study will consider through the preschool and early school years to determine the nature and the severity of these problems. Now, thus far, one thousand babies' births have been recorded. On the prenatal scale the doctors have cooperated, and the hospitals (five hospitals in St. Louis) and parents now are cooperating with the researchers in providing data for this study.

There's a short range goal here, to identify the babies that have had these adverse early beginnings, and then describe their behavior at certain levels in their early years. The long range goal will be to study the growth of children whose history is adverse and then to consider these aspects of behavior and functioning which affect classroom learning. We then want to try to set about the task of minimizing the effects of these adverse circumstances.

Instruction System. Another activity which is under way in entitled, Systems for Instruction for Preschool Aged Children. Researchers have said that the techniques of modern behavior theory have enabled a dramatic modification of a variety of problem behaviors in hundreds of studies in the past decade. However, that application of these same principles for the devleopment of classroom skills has only been recorded in a mere handful of studies. This particular endeavor is designed to systematically expose behavioral principles to the realities of the classroom situation, so that their specific strengths and weaknesses may be clearly visible.

We would like to know how effective these techniques really are. This involves three preschool nurseries at the moment. One of them serves suburban white children, one nursery serves urban Negro children considered to be culturally deprived, and a third is serving a referred group of disturbed children. Already at ages four and five, when the diagnosis is such that it is not at all likely that these children will be admitted into the school systems, public or private, they're using some operant procedures, using tokens for reinforcement.

Our CEMREL investigators are now trying to experimentally validate some instructional systems. In other words, we have three pupil populations here, and we have three independent instructional staffs in three different locations. We think these will provide us with two very important, yet simultaneous, replications.

There are some common factors which we expect will emerge and which can be isolated under these conditions. These will be widely generalizable to other classroom situations. At the same time, there will be some unique variables which will appear under these different circumstances, and we can carefully record these. They will indicate some needs for further study. By 1968 we hope to have some adequate instructional techniques and materials for the preparation of teachers in the use of reinforcement techniques.

At least we have a very modest beginning in work in the area of exceptional children.

TEACHERS VIEW SPECIAL EDUCATION INSTRUCTIONAL MATERIALS CENTERS

William R. Zbinden

The most serious problem confronting teachers of the handicapped is the critical shortage of curriculum materials specifically designed for the various handicapping conditions. As one travels from class to class, the curriculum structure of most special classes seems too often to be floundering along on a bits-and-pieces basis consisting of watered down segments from the regular program, disjointed teaching units, unintegrated field trips, and a smattering of arts and crafts activities. These conditions have resulted in the generally unfavorable results concerning the achievement level of exceptional children in special classes. Samuel A. Kirk (1963) stated: "All of us know that some of the classes we have organized are truly special education classes, because the teachers themselves have, through their individual ingenuity, devised effective teaching procedures. We also know that there are many special education classes which are classes, but not special classes, since we have not yet developed a scientific pedagogy, and are not using the scientific knowledge which we already have acquired.... My prophecy is that those who make major contributions to the teaching process are going to be the future leaders in special education. I hope that I have stressed this point sufficiently to stimulate some to go into the intensive study of teaching procedures. I predict that the next developmental stage in our field in the next ten years will be, not identification and diagnosis, not organization and administration, but in the development of scientific teaching procedures" (pp. 122, 123).

James J. Gallagher (1966) challenged special educators to "think unthinkable thoughts." He asked this unthinkable question: "Is curriculum development too important to be left to the classroom teacher?" Perhaps this only gives teachers the "freedom to fail," since they do not have the time, money, resources, or energy to deal with the curriculum problems manifest in special education. Teaching a special class is a full time job in itself. Maybe the primary function of the instructional materials centers should be to develop, write, field test, and publish new materials. After all, a good librarian could do a more than adequate job in collecting and collating existing materials. The present personnel seem underemployed if this is all they do.

Taking Dr. Gallagher's challenge seriously, what are some of the unthinkable thoughts teachers might express? Questionnaires were sent to a sample of practicing special education teachers concerning what materials they needed. The results can be summarized in the following thinkable and unthinkable thoughts.

It is a thinkable thought to pass mandatory legislation regarding programs for the trainable mentally retarded. It is, however, an unthinkable thought to write, field test, and publish educational materials to be used in these classrooms before the deadline specified by mandatory law. The term "educational materials," as used here, does not mean curriculum guide. Curriculum guides are for teachers, not pupils. Curriculum guides still leave production of educational materials to be used by the student up to the teacher. Educational materials are those textbooks, motion pictures, teaching machines, posters, slides, charts, manipulative materials, etc. brought into the classroom for use by the children as aids in the learning process.

Parents of trainable mentally retarded children mean well when they put pressure on state legislators to provide a training program for their children, but simply grouping them in a public school classroom with a special teacher may not necessarily be the most advantageous or desirable situation for them. Unless there is some prior planning and production of field tested instructional materials to be used in these classrooms, we can probably predict little more success than in the past.

The important issue is what training is going on in classrooms for trainable children. It seems unjust and unduly optimistic to expect teachers to produce special materials for this training after school, at night, or on weekends. But it would not be unjust to expect the instructional materials centers to undertake this responsibility. They already have the administrative framework and facilities, as well as a staff with open lines of communication to financial support.

In the area of the emotionally disturbed, it is not an unthinkable thought to put a group of these children into a special classroom without any materials specifically designed for use by these pupils. It is an unthinkable thought to spend ten to fifteen million dollars producing, field testing, and publishing educational materials designed specifically to remediate or ameliorate their problems. It is not, however, unthinkable for this nation to loose or spend many times the square of those sums in terms of the lack of productivity of this group, the care many of them require, and the damage caused by some of them in our culture. The rather unique approach of looking at human behavior causally through social studies is an interesting approach which offers many suggestions, and other intervention approaches are making progress in the right direction, but much remains to be accomplished. Teachers of these children need high interest—low reading level materials as well as developmental sequential teaching programs. Can we expect the instructional materials centers to provide leadership here?

In the area of the deaf, it is an unthinkable thought for the prominent oralists and the eminent manualists to sit down together, pool their resources, and produce a field tested, programmed series of textbooks to be used in teaching deaf children language and the ability to communicate efficiently and effectively. Historically these two approaches have vacillated back and forth, each seeming to contain the seed of its own imminent destruction. When all the variance of one method has been played out, then the other method is adopted and the cycle repeats itself. Recent major innovations in teaching deaf children have been the result of technological advances as opposed to educational originality. Educators of these children need to be challenged into thinking the unthinkable.

It is an unthinkable thought for outstanding researchers in the field of mental retardation to sit down with the outstanding teachers of these children and write a sequential arithmetic series (for example) designed with these children in mind and ranging from primary through high school level. Zacharias and White (1964) stated: "... curriculum revision is one of the most difficult of all the tasks upon which the scholar or the research scientist can embark. Before he can hope to make a matter clear to the student, he must make it clear to himself, and where the subject-matter goes back to fundamentals, this can be enormously difficult.... Successful curriculum revisions have been those in which the most eminent men and women have been willing to suspend their own careers over a long period of time to apply themselves to problems of curriculum revision " (pp. 77-78).

If we are to do something about the generally negative results of the many efficacy studies accumulated in the literature on mental retardation, it will require the commitment and involvement of those who have so ably pointed out the shortcomings. With their help in studying what is going on inside special classrooms, designing new materials, field testing those materials, and commercially producing them, it may be possible to reverse the trend of the efficacy studies.

Undoubtedly you can add many more unthinkable thoughts to this brief list. In conclusion, maybe we could ask several questions. Is it unthinkable for teachers to expect the instructional materials centers to take the initiative in getting outstanding researchers in the various fields to sit down with the outstanding teachers in those fields and write the sorely needed educational materials which practicing teachers are asking for? Is it unthinkable for writers, editors, publishers, producers, directors, cameramen, film editors, designers, artists, manufacturers of school equipment, and other technicians to work together cooperatively in the materials centers? Should not the materials centers be the place where such major curriculum revision in Special Education takes place? Special education teachers hope so!

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ABSTRACT

INSTRUCTIONAL MATERIALS FOR THE VISUALLY HANDICAPPED

Carl W. Lappin

The act, To Promote the Education of the Blind, passed by Congress in 1879, made the American Printing House for the Blind (APH) the official textbook printery for the blind. Textbooks published at APH are approved by a committee of ex officio trustees of the printing house after recommendations have been made and consultations with the original publishers have been completed. Textbooks are published in braille, large type, and recorded form. Usually the books most widely used on a nationwide basis are adopted.

For the past several years the Central Catalog of Volunteer Produced Textbooks (a card file listing of braille, large type, and recorded textbooks) has served as a location source for books that are produced by volunteers. About 60 percent of the legally blind students receive their education in regular public schools, and since it is not possible for APH to publish all the textbooks used in these schools, this reference service is most valuable.

The Instructional Materials Reference Center for the Visually Handicapped, funded through a grant from the US Office of Education, now maintains the Central Catalog of Volunteer Produced Textbooks and has a similar catalogue listing for educational aids other than textbooks. This center will also develop and evaluate new aides and ideas for instructing visually handicapped children. Searches of literature and field visits to classrooms are being made to locate aids that can be produced specifically for the blind. Commercially available materials that can be used or adapted for use are also being located and catalogued for reference service.

ADMINISTRATION

PREPARATION FOR STATE LEADERSHIP ROLES

Kenneth R. Blessing

In developing this presentation, the writer has drawn heavily upon several previously published papers developed either independently or in collaboration with other specialists in the area of administration and supervision in special education (Blessing, 1966; Melcher and Blessing, 1966; Milazzo and Blessing, 1964; Blessing, 1960). In addition, there has been an attempt to incorporate and reflect five years of state level experience in coordinating a cooperative university-state agency internship program geared primarily towards the preparation of state agency personnel in special education.

In a previous paper (Milazzo and Blessing, 1964) it was indicated that the statement of goals and proposals for training directors, coordinators, and supervisors of special education was to be construed only as tentative in nature. These suggested goals and proposals were presented with the intent in mind of stimulating further needed dialogue and discussion by those concerned with quality leadership in special education.

This paper is designed to continue this dialogue, incorporating more recent experiences with the concepts and practices involved in the preparation and training of leadership personnel in special education.

Training programs for special education leadership personnel, in either a more formal organized sense or even in a less structured framework, are a relatively recent innovation in special education. Basically they are a product of the 1960's, having received their original thrust with the passage of PL 85-926 in 1958 and having been more formally recognized by the U.S.O.E. in 1965 with the addition of a post-master's training sequence in special education administration under PL 88-164. As late as 1964, a survey (Milazzo and Blessing, 1964) of the status of the training programs in colleges and universities listed as offering sequences in this area indicated that out of the 40 plus institutions reporting, only four were offering a specific major in this area. In addition, 16 were providing full coursework including a theory course in special education administration, a practicum or internship in this area, and a concurrent followup seminar.

Those who have a special interest in the potentials of this training area have been understandably and specially pleased to note the more recent growing trend in higher education to add skilled experienced instructors to their special education departments. These professors of special education administration are providing the needed visibility and full time commitment necessary to enhance the professional discipline.

Current Issues and Concerns

At this time, then, there appears to be a general consensus that men and women who have genuine motivation to become outstanding administrative and supervisory leaders in special education, with confidence in themselves and their ability to pursue an exacting academic program, require a tailored and sequential preparatory program in this area. There is also general agreement that this preparation program be not less than six years and that sequences leading to a doctorate with a major emphasis in special education administration are highly desirable goals.

Current attention is now focusing upon the delineation of the major administrative and supervisory functions necessary for the effective operation of special education programs at either the state, regional, or local levels and on the major areas of knowledge necessary to competently carry out these basic functions. These are the current imperatives, and they appear to rate top priority in light of the anticipated impetus and thrust Title VI of ESEA of 1965 will be giving to special education across the nation.

A related concern, particularly for the training institutions, is the establishment of course organization or sequence which will insure complete coverage of the delineated major areas of knowledge essential to facilitating the major administrative and supervisory functions of special education. Variations in sequences are to be anticipated and these will undoubtedly reflect the unique emphases stressed on the various campuses. Comprehensive coverage, however, should be the basic intent of the graduate curriculum planners.

Heretofore much administrative and supervisory preparation in both general and special education has generally consisted of academic courses in which theory, some information, and much admonition on how the instructional program should be organized and how administrators and supervisors should perform were expounded. Occasionally, the inclusion of community surveys, field trips, simulated materials, and group dynamics has helped to bring some reality to preservice training, but a genuine exposure to reality in an on-going local, regional, or state agency has been lacking. To bridge the gap between theory and practice, and to provide the prospective leadership personnel with a life sample of experience under direct administrative guidance, the practicum and the internship in educational administration have evolved.

General education has led the way in experimental and innovative practices in practicum and internship programing. Working cooperatively with universities they have provided living laboratories for prospective supervisors and administrators. Reported results of experiences with the internship have indicated that it is the most essential feature of the training sequence, the capstone of the preparatory program. Two previous papers (Milazzo and Blessing, 1964; and Blessing, 1966) have discussed program features of the practicum and the internship in special education and have outlined significant elements of the internship at the state agency level. A current issue facing university, as well as state and/or local collaborators, is the facilitation and implementation of a "paid" internship for prospective leadership personnel in their final year of preparation. Experience has indicated that practical experiences are more easily facilitated than the paid internship which takes its cue from the medical model. State agencies, intermediate or regional school districts, and local boards of education have yet to be convinced of the efficacy of budgeting support monies for the administrative intern in training.

One additional issue requiring some consideration has been suggested. Perusal of the typical list of specific competencies and major areas of knowledge required of special education leadership personnel suggests some essential features which should comprise the training sequence of administrators and supervisors regardless of their level of operation, e.g., state, regional, or local. Presuming general consensus that there are a number of commonalities in the training patterns of these three functioning levels, one could also hypothesize that some differentiation of emphasis is needed to properly equip local, regional, and state interns for the rigors of special education administration/supervision.

Major Areas of Professional Competence

CEC's monograph, Professional Standards for Personnel in the Education of Exceptional Children, succinctly treats the major areas of professional competence by listing: (a) the major administrative and supervisory functions for the effective operation of special education programs at either the state or local level, and (b) citing the major areas of knowledge necessary to carry out these basic functions. Each major area of knowledge, and 15 are given, is followed by a specific delineation of the various administrative and supervisory functions which are dependent upon these knowledges and understandings. For the sake of brevity, I'll only cite the major areas of knowledge needed. The reader is referred to the primary source for a more concise explanation of the functions.

The 15 areas of content include:

1. An understanding of the total educational process.
2. Knowledge of school organization and administrative practices.
3. Knowledge of various administrative provisions.
4. Knowledge of fiscal procedures.
5. Knowledge of curriculum development and methodology.
6. Knowledge of supervisory practices and theory and techniques of staff development.
7. Knowledge of psychoeducational and other diagnostic procedures.
8. Knowledge of personnel practices.
9. Knowledge and utilization of community organizations and resources.
10. Ability to identify, define, and influence the power structure both within and outside education.
11. Knowledge of public relations.
12. Knowledge of school law and legislative processes and their implementation.
13. Knowledge of school plant planning and utilization.
14. Knowledge of research techniques and procedures.
15. Knowledge of professional responsibilities to the field.

Analysis of these areas of knowledge and the related implementing functions would tend to suggest that at the present time, and with respect to the present state of the art, the theoretical academic work could encompass prospective personnel from all three levels without recourse to differentiated courses. A further stipulation, however, would be the provision of differentiated practical experiences and internships for those seeking local, regional, or state leadership positions. We would see, for example, prospective state level personnel studying and being exposed to more in depth considerations of administrative practices and provisions, fiscal procedures, organizations and resources, and school law and legislative processes as practiced at the state level. This does not imply that prospective local or regional personnel would not have exposure to concepts, procedures, and practices as carried out at the state level, but this exposure in the internship would not be as extensive or comprehensive as it would be for state level trainees. A similar differentiation for regional and local interns could be predicated on their eventual functioning at these respective levels.

The Graduate Academic Program

Proposals for sixth year specialists' degrees and doctoral programs with emphasis upon professional competencies have recently appeared in the literature on the administration of special education services (Milazzo and Blessing, 1964; CEC, 1966: and Sage, 1967). Brief mention of these will serve to clarify current attempts to conceptualize training sequences which encompass the major areas of knowledge and the related functions of leadership personnel in special education.

Milazzo and Blessing (1964), in defining a sixth year training program for directors and supervisors, indicated that universities aspiring to receive both candidates for state and local leadership positions, and candidates for university instructorships and research programs should provide: (a) a core of common learnings in the area of special education and (b) differentiated cores for fellowship recipients commensurate with the objectives of the respective candidates.

1. The core of common learnings should involve such aspects as: survey courses in exceptionality, psychology of the exceptional child, curriculum and methods in an area of exceptionality, remediation of learning difficulties, internships in settings with normal children and in an area of exceptionality, advanced statistics and research design, advanced seminars in special education, and electives.

2. The differentiated core for fellowship recipients in administration and supervision should include such areas as: general education and supervision, school law, school finance, administration and supervision in special education, field work in special education, internship in administration and/or supervision of special education programs, and electives.

3. Sixth year programs should include a minimum of nine credits of course work including an internship in the administration or supervision of special education programs, in addition to background work in general educational administration and supervision.

In specifying the nature of the sixth year specialist's degree program, these writers stressed the desirability of appropriate practicum and internship experiences and the need to encourage doctoral level commitments for the most promising candidates from this cadre of trainees. Similarly the CEC monograph (1966) which considered the structure and scope of doctoral programs suggested the following areas of study:

1. A common core of competencies in the related disciplines of education, sociology, speech and psychology.

2. A common core of competencies which cut across exceptionalities, for example, communicative disorders, social psychology of the handicapped, psychological theories as applied to deviant children, and advanced clinical diagnosis of learning disorders.

3. A differentiation among the specialities wherein those desiring to become administrators would concentrate on studies dealing with general administration and with the administration of special education programs. The dissertation ordinarily would deal with an administrative problem.

Currently Sage (in press, 1967) has elaborated more fully on the requisites for a doctoral program for special education administrators. Sage suggests a total program comprising a minimum of 90 semester hours of graduate study, 30 of which would normally have been completed within the master's degree program. His proposal divides the required course work into the following areas:

1. Major Area - consisting of from 33 to 42 hours, including:

   General Educational Administration - 9 to 12 hours in such courses as
   - Foundations of Public School Administration
   - Foundations of Curriculum Development
   - Advanced Seminar in Theory of Educational Administration
   - Supervision of Instruction

   Special Education Administration - 6 to 12 hours in such courses as
   - Seminar on Administration, Supervision and Coordination of Special Education Programs
   - Seminar on Legal, Financial and Organizational Structure for Special Education Programs
   - Practicum in Administration and Supervision of Special Education

Major emphasis in one area of exceptionality or an overview of many areas
- 18 to 24 hours in such courses as
  - Psychology of Disability
  - Education of Crippled Children
  - Organization of Speech and Hearing Programs in the Public Schools
  - Education of Children with Retarded Mental Development
  - Education of Emotionally Disturbed Children
  - Education of Children with Central Nervous System Disorders
  - Education of Visually Handicapped Children
  - Nature of Vocational Rehabilitation

2. Supporting Areas - consisting of two supporting areas (9 hours each) or a single supporting area of 18 hours in the following general areas:

   Psychological Foundations of Education - 9 hours in such courses as
   - Psychology of Elementary School Subjects
   - Psychology of Childhood
   - Psychology of Adolescence
   - Dynamics of Individual Behavior
   - Theories of Learning

   Philosophical - Social Foundations - 9 hours in such courses as
   - Introduction to Philosophy of Education
   - Social Philosophies and Education
   - Comparative Education
   - History of Western Education
   - Introduction to Sociology of Education

3. Tools of Research - consisting of 12 hours in such courses as
   - Educational Tests and Measurements
   - Statistical Methods in Education and Psychology (Basic and Advanced)
   - Methods of Educational Research

4. Dissertation - consisting of 12 to 15 semester hours and related to questions of administrative concern

The general consensus in these three positional papers is that the training sequence for special education administrators and/or supervisors should be exclusively at the post master's level leading to either a sixth year certificate of advanced study or a doctoral degree in educational administration.

The Administrative or Supervisory Internship

As previously indicated, the administrative or supervisory internship should occupy a prominent place in the preservice preparation of leadership personnel in special education. Prior to this stage in the preparation program, a common core of academic work will have been pursued by aspirants to local, regional, or state level positions of leadership. Specialized and differentiated training for work at any one of these levels may be provided by a one semester or full year internship in appropriate level agencies. Short term practicum exposures to agencies outside of the major area of concentration may serve to supplement and extend the nature of the internship experience.

The administrative internship has been stressed as a primary vehicle for bridging the gap between theory and practice. The very nature of the internship combines the benefits of facing the realities of the administrative function with the advantages of a supervised laboratory situation. Learning to do by doing under competent supervision is still a good dictum in education.

The University of Texas (1966) in its Handbook for Interns has stated its conviction that "serving and learning" can be harmonized best if the intern is provided with three broad types of experiences:

1. To observe and analyze the work of other administrative and supervisory personnel.

2. To undertake specific assignments so as to facilitate the on going agency program.

3. To assume responsibility for special projects and studies of worth to both the agency and the intern.

At this point several questions may be raised relative to the feasibility of a state educational agency providing an administrative laboratory for practicum and internship experiences. What specific features are essential to a state education office as a prerequisite to the assignment of administrative interns? What characteristics and functions best depict the organizational structure of a state agency, desirable in terms of internship possibilities? And what should be the nature and experiential content of the internship in a state level special education section?

Sage (1967) has addressed himself to these issues and has suggested that to serve as an intern placement resource, the state education office should have a division or bureau whose chief function is to provide services for exceptional children. He has suggested that the state agency be involved with most, if not all, of the recognized types of services and conditions of exceptionality. A state office having a staff person who specializes in each area of exceptionality (or at least three members) can provide a situation in which an intern can work alternately with one or more specialists and therefore benefit from the wider exposure to different supervisors and in somewhat varying types of activities. One of these staff persons should be available and designated to guide, supervise, and coordinate the various elements of the intern's program.

While the functions of such agencies vary somewhat from state to state, sufficient commonality exists to suggest some valid and enriching experiences for the intern. The writer has recently outlined a number of appropriate projects representative of the type of activities an intern should pursue following five years of experience in the coordination of state level practice and internships (Blessing, 1966). These activities focused upon "home office," field, and special individualized assignments. Some illustrative examples were:

1. Participation in general staff meetings of the agency for the purpose of overviewing the coordinated efforts of the entire department.
2. Participation in departmental publication activities, to produce brochures, handbooks, etc.
3. Participation in comprehensive evaluative studies and surveys to determine statewide special education needs.
4. Participation in supervisory and consultative visits with general and special education personnel in local school districts; writing field visit reports and other communications as appropriate.
5. Participation on inservice workshops and institutes in counties and local school districts.
6. Participation in communication with individuals and agencies requesting services from the department.
7. Participation in communication and interaction with other branches of state government (e.g., legislative and executive) requesting service from

the department.

8. Participation in development of policies, procedures, and standards for special education.
9. Participation in visits to state residential school facilities.
10. Participation in departmental research projects.
11. Participation of interns on a short term basis in the special administrative section of nearby intermediate, county, and city school systems where they can become oriented to the varying administrative and supervisory functions peculiar to these agencies.

Considerable supervision is provided the trainee in the early stages of the internship in order to provide the necessary safeguards and to preserve the image of the state agency. However, the general competency level of the individuals assigned to our bureau by the cooperating universities has been of such a high calibre that, in most instances, the interns have soon assumed total responsibility for certain projects and activities of benefit to both the agency and the intern.

General Observations and Implications

It has been our observation that program descriptions generally approximate the ideal on paper and in the journals, but closer analysis of actual practice usually uncovers some limitations which preclude attainment of the ideal. Objective reporting requires that some of these limitations be clarified to enable other agencies to consider these issues and problems before embarking upon a full-blown internship program.

At the outset, it should be indicated that our program is intermediate between a practicum and an internship. In a previous paper (1964) Milazzo and the writer operationally defined the nature of the practicum and internship as perceived at the time of its development. Within the context of this paper an internship is defined as the full time assignment to a particular setting for a block of time (several weeks, months, a semester, year, etc.) during which time a broad scope of observation, participation, and work activities is involved. In contrast, isolated or single experiences of limited duration are referred to as practicum experiences. These would include one day observations of a special class program, periodic inservice meetings with teachers, working on a bulletin or publication, or similar short term experiences. However, the actual medical or general administration model requires a "paid" internship, since the long term nature of a semester or full year involvement in depth necessitates a considerable financial investment for the trainee. Administrative interns in our current program spend up to 240 clock hours at the state agency level on an unpaid basis and accumulate six graduate credits for their involvement.

We would like to see this requirement expanded to a full semester, or more desirably, to a full year with a paid salary based upon the amount which the intern would receive if employed as a classroom teacher in the immediate area giving appropriate credit for training and experience. This practice has gained some precedence in other administrative internship programs in general education. To date we have not been able to implement the "paid intern" concept, but plans include a line item in our next biennial budget in order to facilitate such an arrangement. It is our conviction that local and regional school agencies should adopt similar school board policies and practices in order to stimulate the administrative internship in the special education field. Considering the tangible and intangible benefits to both the consumer and the recipient, this would represent only a minimal budget outlay for services received. For the trainee to invest this amount of time and outlay of energies in an already crowded academic schedule, at the crucial period in his professional life, militates the introduction of a salary commensurate with his qualifications and experience.

Related to this overriding concern is the necessity for the training institution to consider the appropriate time for placement of the trainee in the internship phase of the sequential program. Ordinarily the internship occurs after the completion of all formal course work, although consideration might also be given to the possibility of placing the intern between his second and third year of graduate study. Placement at the completion of all formal coursework assumes that the intern brings to the participating agency the advantages of an additional year of advanced study. Advantages thereby accrue to the participating agency since a marginally trained person might offer less in the way of competencies. On the other hand, somewhat earlier placement has the obvious advantage of providing a number of realistic administrative experiences which, in turn, can be brought to bear in more advanced course work at a later date.

One further issue relates to the commitment of the participating state agency. In electing to cooperatively participate with a university preparation program, agencies need to recognize that their commitment entails additional time and energies on the part of supervisory staff. In the early stages of the internship there is every likelihood that trainees may actually be more of a drain than an assistance to the agency personnel. If placements are made for only a single semester, the anticipated benefits may not be as fully realized as under the full year plan. These, then, are concerns which a participating agency will need to resolve prior to electing to assume a supervising role in the internship.

Summary

To summarize, this discussion has considered the increasing concern for adequate preparatory programs for administrators and supervisors of special education. Emphasis has been primarily upon the differentiation of preparation programs for state level leadership personnel, while recognizing the commonalities in the training patterns for administrators and supervisors at the local and intermediate levels of operation. Tentative academic programs have been suggested for sixth year specialists and doctoral level programs, and the need for bridging the gap between theory and practice, through the administrative internship, has been stressed. A strong conviction has been expressed that the local, regional, and state educational agencies, in partnership with the universities, have an obligation to provide "paid" internship opportunities for prospective candidates. Tangible and intangible benefits accruing to participating agencies and trainees have been suggested and a number of unresolved issues and concerns have been outlined for further consideration.

The internship is no longer in the experimental stage in general education. In fact, it may be regarded as a very vital and necessary ingredient of preservice professional preparation. If special education is to add new dimensions to instructional programs at the classroom level, experimentation with and incorporation of the internship concept in its leadership preparation programs is required. Such a thrust could well be the key to keeping special education on the leading edge of change, a position essential to quality education for exceptional children and youth.

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DESIGNING A COLLEGE PROGRAM IN SPECIAL EDUCATION ADMINISTRATION

Charles E. Henley

Introduction

This paper discusses the ways in which colleges and universities are attempting to meet the needs in the training of special education administrators and supervisors. In order to have some point of reference from which to approach this question, the writer called upon colleagues in certain other colleges and universities for a report of the general direction in which their programs in this area of administration are developing. A survey of those college and university special education programs currently (1966-1967) receiving support from the US Office of Education in the area of special education administration facilitated the research. The list of such programs as received from the US Office of Education includes 11 institutions of higher education. By no means does this imply that the sample group represents all of the institutions involved in the preparation of administrators of special education. The selection of this group did seem to be an appropriate way of delimiting the task to a reasonable size in light of the time available. As most of these programs have developed since the extensive survey of 40 some colleges and universities by Milazzo and Blessing in 1964, they appear also representative of the current trends in this area. The survey response was 100 per cent.

In order to get a general picture of the responses to this survey and the trends in programing in these 11 institutions, a brief review of the results and some general comments as seem appropriate in each question area are necessary.

Survey Summary

1. The cooperating institutions were as follows: University of Oregon, Indiana University, University of Arizona, University of Texas, University of Kansas, University of Pittsburgh, Syracuse University, University of Iowa, University of Illinois, Michigan State University, and Colorado State College.

2. Question: What degrees are offered which may emphasize special education administration and supervision?

   Six institutions offer the Educational Specialist (6th year) degree in special education administration. All 11 offer the doctorate in this area. In two cases, mention is made of academic work at levels below the 6th year, for state certification purposes. This is probably true also of other programs in states where certification patterns in special education administration have been developed.

3. Question: What are the specific courses which have been developed in special education administration and supervision?

All 11 institutions utilize a course in administration and supervision of special education or administration of special education. One school includes a course in administration of pupil personnel and one a course in supervision of special education. Three schools report general doctoral seminars in special education administration. Other more specific courses mentioned include:

1. Special education finance
2. Community agency programs for the handicapped
3. Issues and trends in special education
4. Problems in special education administration
5. Design of local, state, and national programs for the exceptional
6. Legal, financial, and organizational structure of special education program.

The total number of courses per school mentioned under special education administration range from one to four, with a median of two. This excludes practicum and internship types of experiences which are considered in another section.

It would appear from the response in this section that the various schools are beginning to define what is special about special education administration, but that a body of course work is only beginning to develop in this area.

4. Question: What are the courses in general education administration which are normally utilized in this program?

A rather large number of courses were listed in this area:

1. Structure and organization of public education
2. Theory and principles of education
3. Philosophy of education
4. School administration
5. Problems in public school administration
6. School business management
7. School law
8. Plant planning
9. Personnel administration (management)
10. Public relations
11. School community relations
12. Urban problems
13. State and Federal education
14. Procedures of classroom observation and analysis of teaching
15. Curriculum development
16. Instructional supervision
17. Support programs (grantsmanship)
18. Change and organization

It is difficult to try to interpret the response here, as undoubtedly the same or similar content is to be found under different titles. There does, however, appear to be some consensus regarding the importance of the several courses as demonstrated by the number of institutions reporting their use in the program. These courses and the number of schools reporting them are as follows:

1. School administration (8)
2. School law (8)
3. Supervision (5)
4. Personnel administration (4)
5. Public relations - school community relations (4)
6. Plant planning (3)
7. The number of courses listed by institutions in the area of general education administration varied from one to seven, with a median of six.

It seems apparent that most of the institutions surveyed are drawing heavily upon the skills and knowledge of general education administration.

5. Question: What are the other areas (in addition to special education administration and general education administration) which are normally considered essential to the program?

Following are the responses to this question, many of which appear to be courses rather than areas:

1. Psychology
2. Psychology of learning
3. Psychological foundation of education
4. Group dynamics
5. Cultural dynamics
6. Educational psychology
7. Sociology
8. Mental retardation
9. Business
10. Vocational rehabilitation
11. Individual diagnostic techniques
12. Research and statistical methods
13. Cultural foundations of education
14. Other areas of special education
15. A second area of special education

The major areas of agreement appear to be: (a) research and statistical procedures mentioned by five institutions and (b) other special education areas, reported by six institutions.

Areas which are given considerable emphasis in terms of credit hours by certain institutions include: (a) educational psychology, listed by two institutions which require 10 and 15 semester hours respectively, (b) mental retardation, a block of 30 hours being indicated by one institution, (c) business, one institution utilizing 15 semester hours in this area including such course titles as organizational relationships, management, manpower management, and computer techniques, and (d) a second area of special education of approximately 15 semester hours was reported by one institution.

6. Question: What are the usual requirements for admission to the program?

In terms of years of experience in special education, the range for the doctorate was from one to four years. The median requirement here was three years.

The range for the Educational Specialist was also from one to four years with a median requirement of two and one-half years.

Most institutions then require two or three years of special education experience before admission to graduate programs in special education administration. There is no distinction between the Educational Specialist and Doctorate regarding this requirement for those schools offering both degrees.

With regard to the number of special education areas of certification required for admission, eight institutions reported requiring only one area of competency for admission to the Doctorate and six (or all) institutions require only one area for admission to the Educational Specialist. Two schools require certification in two areas for the Doctorate.

7. Question: What are the internship and practicum requirements?

This area is difficult to describe due to different systems used in reporting. Internship placements appear to utilize only one setting and range in length from 300 clock hours to a full academic year. Practicum hours range from 25 hours to 180 hours in one to five settings.

There appears to be little difference in the internship and practicum requirements for the Educational Specialist and Doctoral programs.

8. Question: What are the kinds of internship and practicum settings utilized?

Local school districts and the state departments of education were unanimously reported as being utilized. Eight institutions reported placements in intermediate or county level districts. Nine reported using public residential schools, five use public agencies (such as the state mental health department), three are utilizing private agencies (such as the state association for retarded children), two have agreements with private residential schools, and one reported utilization of the US Office of Education.

9. Question: What are some of the unique features of your program?

The features reported are as follows:

1. Field research practicums.
2. Orientation of program toward management principles.
3. Final two weeks of internship devoted to a seminar on campus.
4. A post-master's 30 hour program after which some return for Ph.D.
5. Group visits to St. Louis County Special Education District, US Office of Education and the annual convention of the Council for Exceptional Children. Lecture Series on administration each year.
6. Development of simulation procedures in administration.
7. General program flexibility, including admission prerequisites. Will accept people from elementary education, psychology, etc.
8. Flexibility of internship and other experience requirements. Immediate involvement of students in short term practicum experiences. Internship and seminar on advanced problems run concurrently.
9. The Educational Specialist degree may emphasize administration and bypass the master's degree, or it may emphasize supervision of a special education area, utilizing the master's program in that area.

We can see in this section some interesting and creative approaches to program development.

10. **Question**: What are the major problems encountered in developing this program?

Interestingly enough, little was reported regarding problems. There are probably several reasons for this. Those in programs just developing may not feel ready to analyze their problems at this point. Others may feel the problem too complex to report adequately in the manner and space provided. It is possible that others really have no problems. The problems reported are as follows:

1. The internship program
2. Difference between degree and non-degree programs
3. Finding qualified personnel
4. Getting districts with best field experience to find the money for intern salaries. They like the idea, but have trouble with budget. This final point appears to substantiate comments made by Dr. Blessing with regard to the paid internship.

11. **Question**: Do you have a separate program for the preparation of special education supervisors?

In answer to this final question, two institutions indicated they had such programs, the remainder indicated they did not.

Problems in Program Development

The problem faced in the development of a program to train administrators of special education is not simply that of determining the kinds of knowledges and understandings which are appropriate. The program for the administrator of special education should provide skills in such areas as:

General administration - knowledge of finance, law, personnel, etc.
PLUS
General special education - breadth of understanding, depth in one or two areas.
PLUS
Psychology - understanding how people develop and function. What may go wrong and why. How to counteract these deviations, etc.
PLUS
Psychometrics - utilization of the best in testing and assessment.
PLUS
Research - the ability to understand and conduct meaningful research.
PLUS
Management - operating the machinery efficiently, bookkeeping, office procedures, etc.
PLUS
Public Relations - selling the program, knowing the community including the agencies and organizations with which one can work to improve the total special education program, etc.
PLUS
Grantsmanship - obtaining financial support for various efforts from state and Federal government.
PLUS
Supervision - guiding and improving the instructional program in special education.
PLUS
General Education - philosophy of education, current trends and issues in education today, keeping in touch with the main stream.
PLUS

Organization - ability to look ahead, to plan years in advance, to be ready when opportunity strikes, to set up new programs and new ways of attacking problems, etc.

PLUS

Leadership - the ability to work and communicate with individuals and groups, and to make appropriate and vital decisions.

One might go on and on describing the areas and experiences which might well be of great value to the potential administrator. Almost any areas which allow the individual to grow and expand his knowledge, skill, and understanding certainly might substantially increase his overall efficiency.

It is obvious, however, that we cannot hope to incorporate all of these valuable areas into the required preparation program within a reasonable length of time.

The issue or the problem is not what is appropriate and of potential value. The issue is which of these experiences are crucial, which are most valuable, and which are most applicable to a variety of situations. What is the "crucial core" which we feel must be a part of the preparation program?

Problem #1

The first major problem facing the development of these programs is how to determine the crucial experiences and knowledges necessary for the training of a special education administrator, and how to do it within a period of two or three years of full time study.

We have seen in our brief look at the offerings of the 11 college and university programs that there is some uniformity as well as some diversity with regard to the selection of this core.

We who have had some responsibility for making these selections have utilized: (a) our own experiences, (b) the advice of experts to whom we have talked (including successful administrators in special education), and (c) the pioneering work of such writers as Kirk, Gallagher, Milazzo, and Blessing.

Although we have each made our major selection of the crucial core, we would all admit that this is only tentative, a place to begin, a point of departure. The real development and improvement must await the feedback from the field. From those who have experienced our programs we must ask: What was needed that was not given? What was not necessary? How can this effort be improved? As these questions are answered, our selected core will change and, hopefully, improve. Even with our best efforts, we cannot and should not seek a structure through which we would direct all candidates, for this is not the spirit of the graduate program. Too many variables are involved.

Most of the persons involved in developing these programs in special education administration would want it understood that, especially at the doctoral level, there is considerable flexibility. At the particular institution which the writer represents, the point is stressed that every doctoral program is individualized on the basis of such factors as: (a) the skills and experiences the individual brings to the program and (b) his future vocational aims and objectives. This type of flexibility, although extremely desirable, adds to the complexity of program development. The development of a program around a specific vocational goal of the candidate (with the existing labor market in special education) may be an objective at which we should take a closer look. This becomes especially important with regard to the internship experience.

As has been pointed out, the present approach appears to attempt to fit the internship experience to the specific position for which the candidate is preparing. There are some questions and problems in applying it, however. One question might be: Is it efficient to require a year (or a semester, for that matter) in a full time internship in a local school district, only to have the individual decide on employment in some university? It is a problem which time alone may be able to solve.

Problem #2: How to Deliver the Needed Experiences

The second problem is that of method. How to deliver the experiences which have been deemed crucial. In many areas of the program, this may not be a concern simply because we have no direct control of it. The cognate or minor area is normally the responsibility of that department. Courses in statistics, educational research, educational philosophy, general administration, etc. are set and determined by others.

In the areas of special education and special education administration, however, we have the opportunity to be flexible and to experiment with various methods of delivering the crucial experiences and information.

An emphasis toward practicality and toward relating courses in special education administration to the real world can be seen. We see that a major tool currently being utilized is that of the internship and the practicum. These types of experiences are used in a variety of ways: as a full time experience in one setting for a quarter, for a year, for a semester, paid or not paid. The shorter practicum experiences range from 25 to 180 hours (clock) in from one to four settings. We have learned that short practicums are being utilized from the beginning of the preparation program. We see that the internship and the doctoral seminar may be combined in order to complement each other.

These are evidences of innovation in the interpretation of the internship approach. We will continue to see new approaches created as these programs develop.

It would appear that practical application to the real world of special education administration must permeate all coursework in this area. It must apply to what is happening in the field. If this is true, we must seek the assistance of the special education administrators and supervisors throughout our various states, not just at the time of the formal internship and practicum, but throughout the total program. We cannot deliver our crucial core in a meaningful way unless we can effectively relate it to their programs. Professional people are eager and willing to assist in the development of better preparation programs for future administrators of special education.

The writer has attempted to present an overview of some of the current programs being designed to prepare administrators and supervisors of special education programs, and in addition, to comment on some of the problems connected with such program development.

COOPERATIVE PROGRAMS JOINTLY SUPERVISED BY SCHOOL AND COMMUNITY AGENCIES

Helen B. Jacoby

At the present time the Fairfax County school system of Fairfax, Virginia, Department of Special Education, is working in cooperation with three community agencies, the Department of Public Health, State Vocational Rehabilitation, and the County Mental Health Clinic. The three programs involved deal with three different populations of children and young adults. The only similar feature of the three programs is the fact that the overall supervision is a joint responsibility of the school and the cooperating agency.

The purpose of this paper is to briefly describe these three programs, pointing out the desirability and benefits for children to receive services and describing related problems when two agencies become involved in a school oriented task.

In September, 1965, two programs were initiated cooperatively between schools and community agencies—a high school vocational program for mildly retarded youth with the State Department of Vocational Rehabilitation and a Daytime Development Center for preschool mentally retarded and severely retarded physically handicapped older children.

In September, 1966, an additional program was begun cooperatively with the Mental Health Clinic serving the county.

In the program with Vocational Rehabilitation and the program with the Mental Health Clinic, the school takes responsibility of the primary role. In the program with the Health Department, that agency assumes responsibility for the primary role.

The Fairfax Plan, a program for mildly retarded and borderline high school age students, was initiated in 1965 in three Fairfax County public high schools. There were at the time 16 high schools within the Fairfax County Public School System. Schools selected were in geographic locations of the county where a reasonable number of special education students were known to be present within commuting distance. All three schools had administrations that expressed general receptiveness toward the idea of a retarded population within the school and had extensive industrial arts and home economics departments. Students are screened, selected, and admitted by a joint effort of the school and the rehabilitation agency. Students admitted to the program are assigned to homerooms at a 10th grade level. Physical education and lunch periods were designated on a random basis, with special education students integrated with regular students. This scheduling served the purpose of having special education students exposed as much as was considered desirable to the general life of the high school and to promote interest in the range of extracurricular activities available. For all periods except lunch and homeroom, special education students were segregated by sex. Initially, all students received three periods of academic instruction daily from a special education teacher functioning within the context of a self-contained classroom. Math, English, social studies, and reading skills were included in the first year curriculum.

At the present time the program is in its second year and the third year pilot group is graduating. The academic areas have been departmentalized in one of the schools, with each special education teacher instructing in a specific academic area. Each male student receives two periods of vocational training in either industrial arts or other trade areas, and each female student receives two periods a day in the vocational training areas of home economics and related occupational areas. The entire curriculum is equated with the Carnegie Unit in order that upon completion of 16 units, the student earns a diploma. Classroom personnel includes seven academic teachers—two in each of two schools and three in one school, three vocational industrial arts and trades teachers (one at each school), and three home economics vocational teachers (one at each school).

The State Department of Vocational Rehabilitation has assigned as an integral part of the program a Rehabilitation Unit housed within the schools to serve the needs of all eligible clients in the Fairfax County school system. This means that the unit not only functions to serve clients who are classified as mentally retarded, but all other handicapped students as well. The unit is presently comprised of a supervisor, six vocational rehabilitation counselors (one of whom is a job placement counselor), two social work trainees, a psychologist, and supporting nonprofessional personnel. In addition to providing vocational rehabilitation services to eligible high school age clients with physical handicaps, the Vocational Rehabilitation Unit personnel provide intensive services to program students in the form of counseling, arranging for medical examinations, psychological evaluations, and casework services. The unit also provides specific alternate vocational training or placement as indicated for program dropouts and parent conferencing, as necessary or requested.

The Fairfax Plan was written and originally established for middle class mentally retarded youngsters whose motivation to remain in school was geared more nearly toward the average student's motivation. Each student wanted a diploma, wanted to wear a cap and gown and own a class ring. Initially, however, students whose vocational rehabilitation prognosis might be considered poor because of low socioeconomic status were not screened out of the program. Criteria for acceptance were: (a) ability to complete the three years of the program prior to the individual's 21st birthday (preference was given to students with 16 and 17 year chronological ages), (b) an individually administered intelligence test (WAIS or WISC) full scale IQ score ranging from 60 to 84, (c) the client's willingness to enter the program, and (d) his parents' or guardian's consent.

The desirability and benefits for children receiving these services have motivated the personnel in both school agency and vocational rehabilitation agency to overcome the problems of this jointly supervised program. The major problem seems to be related to formulation of roles by the vocational rehabilitation counselors and the academic and vocational teachers and high school guidance counselors. The role established traditionally and historically by both rehabilitation counselors and teachers, of necessity, had to be changed. Each seemed to be encroaching on the boundaries of the other, calling for cool heads and understanding administrators. An entirely new role for the teacher and the counselor has emerged. The transition between school and job for the child is becoming a reality, aided by both teacher and counselor, rather than rehabilitation taking over when the school leaves off.

In September, 1965, the Fairfax County Health Department, in cooperation with the Fairfax County School system, established a Day Care Center program for the two groups already mentioned in the introduction—the preschool mentally retarded child and the school age child who is either too severely retarded to qualify for public school classes or is both severely retarded and physically handicapped. The program is intended to provide training appropriate to the individual's capacity. The program received funding from the National Institutes of Health. The Fairfax County school system provides a program for moderately retarded youngsters from the ages 6 through 17 with IQ's between 40 and 60, who may be mildly physically handicapped but must be mobile. The county system does not provide for severely retarded youngsters with IQ's below 40 and those others who are both severely mentally and physically handicapped. Fairfax County's program is housed in two centers. It was decided by the Fairfax County Superintendent of Schools and the Director of the Fairfax County Health Department to use one wing of one of these centers for the first Daytime Development program. Since no academic teaching was involved, and the goal of the program was self care, it was decided to use training aides to work with the children, with a nurse in charge of the program. The supervixor of special education would act as a consultant in program planning for the preschool mentally retarded who would be eligible for the Fairfax County programs for both moderately and mildly retarded children. At a minimal cost, Fairfax County would provide transportation for the youngsters to the center.

The program was established to fill the gap between the residential institution and the public school services. The program would provide parent relief for some of the daytime hours, provide counseling and anopportunity for better understanding of the problems related to the handicapped child and their families. It would also provide training towards self care for the retarded individual. Referrals are made to the Health Department. The supervisor of special education serves as a member of the Admissions

Committee and works together with the director of the Health Department in planning inservice for the training aides, implementing the program, and transferring children from one program to another on the basis of need. An excellent consultation and evaluation clinic, operated by the Health Department, provides the necessary evaluation of each child.

The problems involved in this program are entirely different from those related to the previous program described since, in this case, the school is actually the cooperating agency with the Health Department assuming the primary responsibility. However, again we find the definition of role to be an operational problem. The fact that each agency has been willing to be involved in the changing role is undoubtedly the reason the program has expanded. At the present time there are three centers operating, only one within the school complex. The reason the other two are not within the school complex is no available space at the moment. It is anticipated that school centers henceforward will be built with Health Department needs in mind. The supervisor of special education regularly visits the cneters and works with the director of nurses to implement the program.

The third program jointly sponsored and supervised by the Fairfax County School System and a cooperating agency is with the county operated Mental Hygiene Clinic, which is not a part of the Health Department. This program was initiated in September of 1966.

At the present time Fairfax County has five classes designated as Special Learning Problems for normal or bright children at the elementary level who cannot remain in regular class because of behavioral disorders and learning problems. The educational goal of the classes is to help the children with these severe behavioral and learning problems toward participation in the regular school curriculum. The program is geared to the individual's needs, aptitudes, and abilities. Each child is on a specific program, written especially to meet needs. Maximum class size is eight children. Each child is expected to return to regular class within a two year period. At the present time there are three classes for the primary level, ages 6 through 10, and two classes at the older elementary level, ages approximately 11 through 13. Each applicant's case must be reviewed by an admissions committee. Each applicant must be toilet trained, ambulatory, and generally able to function in a small group. Applicants must have evidence of recent medical and psychological evaluation indicating intelligence within the normal range. If therapy has been recommended, evidence of either group or individual therapy must be presented to the school authorities. Accepted students may remain in the class for a limit of two years only if progress in behavior and academics is measurable. The Learning Problems classes have been in existence in Fairfax County for approximately five years. Until two and a half years ago there was an attempt to arrange the groups of children on the basis of diagnosis into those thought to be neurologically handicapped and those thought to be emotionally disturbed. Collected evidence indicated this to be an impossible task because of conflicting diagnoses. It was therefore decided to place children in an educational therapeutic setting on the basis of behavior and lack of achievement in regular programs when intelligence tests indicated normal intelligence. In attempting to place children back in the regular program after a two year period, it was discovered that fewer than half of the children met with any success even though complete remediation in the academic areas had taken place. Therefore, there had to be another answer to the problem. Fairfax County has an excellent operating Mental Health Clinic devoted mainly to the service of children. In July, 1966, the supervisor of special education met with representatives of the clinic and presented the problem with a possible solution. The solution would be a joint educational-therapeutic program, housed in the school setting, operated by school and clinic. The usual problems were present—money and personnel. The clinic offered, on an experimental basis, to provide a therapist for one of the primary classes for one afternoon per week to do group therapy. They also offered the services of a therapist one night per week for an hour period to work with the parents of the children in the aforementioned class. The coordination and supervision of the project would be carried out by the director of the clinic and the supervisor of special education meeting at regular intervals with people actually concerned with operating the program.

At the present time the program seems to be operating successfully enough so that the clinic has put into its operational budget funds for extending the service to the other four existing classes and one new class to begin in September of 1967.

The experimental class is housed in a small building adjacent to a regular elementary school. The outside building was a purposeful arrangement due to the fact that therapy groups are likely to become noisy and are not especially conducive to good school relationships when housed in a regular elementary school. The building itself looks like a "little red school house," which is what the eight boys have named their school home. The teacher is a secure, experienced, well-qualified person who feels no threat in the therapy situation. Each of the boys is on his own program; group activities being confined to other than academic experiences. During the play therapy session on Thursday afternoon, the teacher remains in the classroom as a part of the group. She works in and out of the situation as she and the therapist feel the need.

On Monday nights the parents meet as a group at the Mental Health Clinic rather than the school. It was thought at first that the threat of meeting at the clinic would reduce attendance by the parent group so an actual vote count was taken as to the meeting place and agreement was made by all that the clinic setting would be acceptable. The statement of the commonality of the problem, children who could not attend regular school for reason of behavior, seemed to be reason enough to bring the parents to the clinic for the group session.

At the present time the subjective evaluation of the therapist and teacher indicates that the joint program of school and Mental Health Clinic will not only reduce the time a youngster will spend in a Special Learning Problems class, but will insure a return, with relatively good adjustment, back to a regular class situation. The "proof of the pudding" is how many of the boys return after this year and how many are able to stay in a regular class situation with a relatively good adjustment.

Joint supervision in any area is rarely smooth. Again, where two disciplines are involved, therapy and education, much understanding on the parts of both agencies is required. Mature, secure people are essential to operate a program. Problems involved within the classroom setting relate to scheduling, attitudes, individual versus group action, reaction from the administrators of the school, teacher-pupil relationship, and teacher-therapist relationship. Since a good teacher-therapist relationship has been established and individual roles have evolved, joint supervision is possible.

Empirical evidence thus far and certain research in the high school vocational program indicates desirability for programs jointly supervised and operated by school and community agencies.

The minimizing or completely removing the duplications of services of community agencies, the general understanding and receptiveness of parents and children to complete services and the overall effectiveness of cooperating agencies operating between home and school seem to justify the extension of the three existing programs and indicate the desirability of exploring others.

GENERAL

LEGISLATIVE ASPECTS OF SPECIAL EDUCATION

Hugh L. Carey

The Secretary of the Department of Health, Education, and Welfare has authorized a two million dollar grant under the Mental Retardation Facilities and Community Health Centers Construction Act to construct comprehensive research and development facilities for the handicapped, mentally retarded, emotionally disturbed, physically handicapped, visually impaired, and language and hearing impaired, to be located at Teachers College, Columbia University. The grant was awarded to Frances Connor.

I am truly honored to spend this evening among men and women in national leadership in The Council for Exceptional Children. Yours can and should be the very first work of our times and our country's finest effort. For in your hopes, your hands, and your hearts rests the future of our exceptional children.

I hope that the appropriations committee will be more than sympathetic to a cause which both Presidents John Fitzgerald Kennedy and Lyndon Johnson advanced to high priority. This concern for the condition of our exceptional children deserves that high priority on the record of the scope of the challenge before us and the vitally necessary steps that must be taken to meet that challenge. I know your leadership felt, as I did, that this high priority, as signed by Presidents Kennedy and Johnson, was showing signs of delusions further down in the executive branch. There was basis for that feeling on one of President Kennedy's precious thousand days before the drums. On October 30, 1963, he took action for the handicapped as he signed Public Law 88-164 for the training of teachers in special education. He said, "I'm glad to announce that this time we are establishing a division in the United States Office of Education to administer the training and research program under this act. This will be called the Division of Handicapped and Youth." I need not remind this audience that it was President Kennedy who vowed, as he signed the bill for the mentally retarded, "The children who have felt the hand of fate shall never suffer neglect." That division undertook to work so effectively than on February 3, 1965, it was awarded a citation by President Johnson in special recognition of an outstanding contribution to greater economy and improvement in government operation; the citation was presented to Dr. Morvin A. Wirtz. This division, as a whole, later received the department's superior service award, and under Dr. Samuel Kirk, it has moved the problems of exceptional children front and center in policy and coordinated programs.

Handicapping conditions among children and youth in this country rank as a major national health, social, educational, and economic problem. In a nation of 190 million people, 50 million Americans tonight have physical, intellectual, or emotional handicaps that to some degree limit their ability to carry on major life functions. Of this number, 13.5 million are children and youths, 26 times the number of men now in Vietnam. They are the real casualties. In the fiscal year 1966, the federal government alone obligated 3.5 billion for the handicapped, none of which was for special education, and two-thirds of which (some 2.5 billion) was merely for subsistence and other welfare, income-maintenance programs. In addition, the states spent far in excess of this amount, including over 1.2 billion dollars for matching funds in income-maintenance programs. The task force now is telling us something more; it is telling us we can remedy these things. It warns us that among children, certain conditions (such as mental retardation, emotional disturbance, and mental brain disfunction) tend to be vastly underreported, and the true figures, if they were before us, would be even worse and even more graphic. I think we know why there is this underreporting: because of the feeling of stigma and shame associated with these conditions in the public mind. In may own experience, I know that many parents of children faced with these conditions have given up any hope of remediation because of waiting lists, a lack of classes and residential facilities, and the oppressive cost of any kind of education. It has been my sad duty to relate that in my home state, for every child or student brought to me seeking admission to one of our service academies or coming in with a selective service problem, there are two children whose parents come to me seeking help in special education because they have been on the waiting list and the children are only getting an hour or so of home instruction. We have much work to do.

You who are leaders in the field and we in Congress owe it to these parents and children who need us to make a vast new effort. There is no doubt about the minimum number to be served. In the report of the task force we now have the beginning of a head count of handicapping conditions in our country as of the last national health survey in 1965. I won't read the entire list, but we should begin thinking in these numbers: in mental illness and emotional disorders among children and youth, 5 million; mental retardation, well in excess of 2.5 million; visual impairment, severe legal blindness, over 65 thousand; severe hearing impairment, in excess of 50 thousand; speech defects, in excess of 730 thousand; neurological disorders, over 5.1 million, including all of the epileptic, palsied, etc. In other disorders, there is a cumulative total well in excess of one million, and when we look at the appalling statistics at the bottom of the column, we come up with a figure of 14.5 million children who today are deeply in need of special education. Fourteen and a half million Americans are calling to us to start this crusade marching on a new objective. The report of the Carter group and our committee are the basis for a national policy of excellence in special education as our best investment to end the loss of 14.5 million American children to productivity and human dignity. We've already begun to move to translate national policy into an agenda for action. To coordinate and direct a true national effort, the 89th Congress legislated a Bureau for the Handicapped (as recommended by your council) as a clearinghouse and launching pad for federal, state, and coordinated private effort. And we don't even trust our own bureau. To look over the shoulder of that bureau and keep it on course and driving, we legislated the National Advisory Committee, half of whom must be affiliated with education, training, and research for the handicapped, and that means members of your council to carry on that job.

In September, 1965, we included residential schools for the handicapped and the benefits of the act under PL 89-313, which I had the privilege of sponsoring. In 1965, with my late and beloved colleague, John E. Fogarty, and Senator Lester Hill, I authorized the National Technical Institute for the Deaf which is now underway at the Rochester Institute of Technology under Dr. Robert Frisina, formerly of Gallaudet. I need not tell this gathering that this institute is a great stride forward in bringing teachers and deaf people into the mainstream of the age of science and technology. In 1966, we stepped up the pace of legislation. As chairman of the committee on the House side, I have had the full benefit of the knowledge and cooperation of outstanding members of Congress, like Frank Thompson of New Jersey, Jim Short of New York, Carl Sickles of Maryland, Alphonso Bell of California, and Glen Andrews of Alabama.

Our first legislation in the committee was the passage of a model high school for the deaf for the Washington region, an act we passed because in the beginning of the thousand odd pages of testimony given before the House Subcommittee for the Handicapped in June, 1966, we found a significant fact: there was not a single good high school for the deaf in this entire country. Now, we have done something about that in terms of a beginning. If we can keep our momentum going in this crusade, I hope that, at future meetings of this great organization, we can report that there will be other regional high schools in each area of the United States until the deaf have a chance at secondary education. Our subcommittee, of course, soon realized the inadequacies of the Elementary and Secondary Education Act in providing day classes for the handicapped. Together, again, with Senators Hill, Morse, Javits, and Robert Kennedy, I authorized Title VI which should be to special education what Smith Hughes has been to vocational education, or at least a good beginning. I am pleased to state that state plans for the complete organization of special education in the public and private sector to meet today's and tomorrow's needs is under way in over 40 states today as a result of passage of Title VI. As the result of further recommendations contained in HR 14, which we introduced on the opening day of 90th Congress, the President has now included in his package before Congress three additional proposals (including regional resource centers for the handicapped) to assist state and other agencies in diagnosis and early detection, and in development of programs. Recruitment of personnel is a second recommendation which he has made—recruitment and dissemination of information to meet the scarcity of teachers and to close the gap between the present 70,000 and the 300,000 that we need for tomorrow's program. In addition, the President has made a third recommendation, which I believe will be passed in the Congress: the expansion of the captioned films program to include all handicapped children. Legislation is moving; the job ahead now is funding. We authorized 50 million dollars for Title VI in 1967 and 150 million for 1968. Thus far, regrettably, no funds have been appropriated to this title. In the pending supplemental appropriation bill, a modest amount has been requested to promote the vital and necessary state planning now being sought. Here is where we need your help and the help of all sister organizations who are truly interested in helping the need for special education. Delay and underfunding of programs for the handicapped means broken promises to people who will face broken lives today and may cause broken families tomorrow. We need the weight of public opinion to call for a new day for the handicapped, a day which can mean dignity, self-reliance, and contributions to society for 50 million Americans tomorrow. Three dollars a head spent on them in 1968 should not prove too much for this great and wealthy nation to sacrifice in the cause of this crusade for children. I say to you: let's wake up America to this challenge, to the challenge that must be met, and as Hubert Humphrey would say, "Let's kick this country right in the seat of its apathy and wake them up to what our children need." Our children deserve this sacrifice in this year so that we can open up the opportunities which you have made possible through your dedication to special education.

INTRODUCTION: THEORETICAL BACKGROUND FOR SELF CONCEPT OF ACADEMIC ABILITY STUDIES WITH EXCEPTIONAL CHILDREN

Edsel L. Erickson
Wilbur B. Brookover
Lee M. Joiner
Richard Towne

For centuries, ever since one man realized he differed from other men, an enormous amount of time and energy has been spent making comparisons among individuals and groups. Of particular interest has been the comparison of deviant populations with normal populations. Special educators have been deeply involved in this practice, and each year they seem to make more and more comparisons between their students and nonimpaired populations.

It is generally felt that such research not only will benefit children in special classes (Meyerson, 1948; Reynolds, 1959; Wright, 1960; Kirk, 1964), but also will contribute to a general theoretical understanding of human behavior (Goffman, 1963; and Festinger, 1959).

Fortunately, accompanying the increased involvement with comparative research, there has developed greater awareness of the problems and shortcomings involved in the instruments and techniques used to collect data. For example, because of differing instruments, population characteristics, theories, designs, and definitions, it has been exceedingly difficult to make meaningful comparisons of social psychological data secured from impaired and nonimpaired populations. A recent national conference report, Research Needs in the Vocational Rehabilitation of the Deaf (Rogers and Quigley, 1960), recognized the shortcomings of ongoing efforts by giving high priority to the development of instruments for measuring social psychological factors. It was agreed that instruments are needed to measure parental and student attitudes; cognitions about self, aspiration levels, vocational interest, and plans; the status of the family; etc. Moreover, members of the conference stressed the need for instruments which would yield comparable data from both impaired and nonimpaired populations.

Participating in this symposium are a group of educators and educational researchers who hold a like concern. They come from a variety of disciplines and universities. They are committed to differing theoretical perspectives and interests in special education, sociology, and psychology, yet for several years in various capacities have worked on a common problem.

Under the leadership of Dr. Wilbur B. Brookover, a social psychologist and cochairman of this symposium, we have conducted several experimental, developmental, and cross sectional studies of theoretical relationships between various categories of self conception and school behavior (see References). Initially the work was limited to public school students without known impairments, but a few years ago we became interested in using our constructs to further understanding of the school-related behavior of exceptional children. As a result, we were forced to deal with complexities involved in obtaining valid comparable data from impaired populations.

Admittedly, our findings and instruments have had as yet only a modest validation. We further believe that before theories of learning and instruction can be adequately evaluated and developed, data with known reliability, validity, and comparability must first be obtained from both impaired and nonimpaired populations in a variety of educational settings.

There are several problems, however, in obtaining valid comparable data from impaired populations. As Dr. Joiner and Dr. McClure will elaborate in their paper, one basic problem in developing instruments for use with visually impaired or hearing impaired populations results from communication deficiencies manifested by these groups. If we design an instrument to measure a social psychological construct, the language or concepts included in the instruments may be of varying comprehensibility dependent upon language impairment. Error variance is, therefore, increased, and our ability to reach valid conclusions is needlessly hindered. Conversely, if we design an instrument strictly in terms of the limitations of the exceptional child, i.e., tamper with the wording and presentation of items, we have no assurance that this instrument will yield data comparable to that obtained with other instruments. Therefore, assessment of the reliability and validity of modified instruments becomes the first necessary stage in social psychological research if we want to more definitively describe students and social psychological processes.

The major instruments we had been working with in our studies of public school children, the Michigan General Self Concept of Academic Ability Scales, originally developed by Brookover and his associates, had been subject to extensive reliability and validity studies. But when we (Joiner, Erickson, and Brookover) adapted these instruments for studying exceptional children, particularly for the hearing impaired and the visually impaired, reliability and validity, along with comparability, again became concerns. Consequently, an inter-university research project was organized to evaluate the reliability, validity, and comparability of the adapted scales. People from departments of special education, speech pathology, sociology, and psychology at Western

Michigan University, Michigan State University, Southern Illinois University, Hofstra University, State University College at Buffalo, and Wisconsin State University at Whitewater cooperated in this venture with personnel from the Indiana School for the Deaf, Michigan School for the Blind, and the Michigan School for the Deaf. Four of the five papers in this symposium report preliminary findings from this project which was supported by the US Office of Education (Erickson, et al., 1967) and the Center for Sociological Research and the School of Education at Western Michigan University. The fifth paper, which reports findings from using the original scale with educable mentally retarded children, was supported under separate grants from the US Office of Education (Towne and Joiner, 1966) and Michigan State University.

Prior to mentioning some of the other kinds of findings presented in this symposium, perhaps a few brief theoretical statements are in order about what we mean by the phrase "self concept of academic ability," hereafter referred to as SCA. A more complete statement of our theory and research has just been released and is available to those interested (Brookover, Erickson, and Joiner, 1967).

First, we wish to emphasize that this symposium focuses on only one of several important constructs within our theoretical system. Because we are focusing upon self concept of academic ability, it might be misunderstood by a few that we think other self conceptions or other variables are more or less important. Today, we are merely addressing ourselves to the establishment of a more definitive understanding of that category of symbolic behaviors we define and observe as "...the evaluations one makes of oneself in respect to his ability to achieve in academic tasks as compared to others (Brookover, Erickson, and Joiner, 1967, p. 51)." One of our basic assumptions is that the self conceptualizing behaviors of individuals about their ability to carry out academic requirements is a functionally limiting variable which operates within broad limits and influences the nature and extent of many students' school achievement.

This model for learning should not be interpreted to mean that biological differences, for example, those resulting from neurological impairment or skills levels, play no part in academic performance. Organic states, skills, and affective conditions provide a framework in determining what is learned. Within this framework, learned cognitions of what is appropriate, desirable, and possible for the individual are also postulated to influence learning. Some students, even the educable mentally retarded, may so learn that they can't learn; consequently, even the most sophisticated special education programs are unfortunately hindered. Dr. Towne and Mr. Schurr will give special attention to this issue and to its theoretical and educational significance in their paper.

Perhaps it has been noted that our definition of self concept of academic ability is a behavioral definition—that we have not stated or implied that we are measuring a psychological trait or some underlying phenomenological self. Perhaps you have also noted that we are concerned with a single class of self defining behaviors concerning academic abilities, and that we are not talking about some generalized or global self concept. We believe that it is possible for a student to think of himself as handsome, popular, well liked—a good person—and yet rather ignorant in statistics. We suggest the obvious. If we wish to account for this person's behavior as a statistics student, then the student's cognition about his ability in statistics is perhaps the most relevant variable.

Often the term self concept in the title of a scale or study is the only identifying feature which might lead one to think of the study as a self concept study. In such cases, were the title absent it could be reasonably argued that conformity, ambition, adjustment, physical ability, physical appearance, or social virtues were the subject of investigation. Given this, it is not surprising that somewhat more carefully defined and homogeneous variables (such as previous academic achievement, IQ, and SES) yield better research results.

A large part of the self concept literature is verbally redundant or synonymous but nonreplicative. Literally hundreds of studies have been done on self concept and reported in the educational, sociological, and psychological literature. Yet few of these studies can be replicated or compared because of either unclear conceptualization or instrumentation, or both. Confirmation or nonconfirmation of others' findings is, therefore, impossible. Hence it is inaccurate to speak of conflicting results. For example, an examination of the research on whether there are sex differences in self concept discloses what appear to be contradictory findings. However, a finding of no difference in one study does not allow us to say that a finding of differences in another study is not confirmed. Depending on the measure used, girls have been reported to have both higher and lower self concepts than boys.

The use of multifactor instruments which employ items assessing such different conditions as self concept of ability in reading and how well one likes oneself also presents difficulties. This is particularly true when the subjects' responses to these disparate factors are summed or averaged as an index of a general self concept. Since most measures of self concept are multifactor, it appears to us that this may be one reason which has led some researchers to discard self concept as a relevant variable in understanding school behavior.

Related to this problem is our view that a person may hold more than one self concept of academic ability. In addition, these self conceptions may vary depending upon to whom the subject is comparing himself at the time of assessment. For example, a blind child may hold a high self concept of academic ability when he compares himself to his blind classmates and a low self concept of academic ability when he compares himself to sighted students. Conceivably, as a person moves from one social situation to another, the others to whom the individual is comparing himself may also change. If one assesses an educable mentally retarded child's self concept before and after placement in a special education classroom and fails to determine to whom the child is comparing himself, findings that the child scores higher on the posttest may be erroneously concluded to mean that the child has improved in self concept. Conceivably, it is possible that the child may have a lowered self concept of ability in comparison to others outside of his special class. At the same time, however, he may have developed a relatively high self concept of ability with reference to his new classmates.

The point of this is not to evaluate special class placement. The point is that the responses of subjects to questions asking them to evaluate themselves may be of more or less comparability. The comparability of such data depends upon: (a) whether the items making up the measure of self concept tap one or several factors, and (b) whether there is some means by which one can determine to whom the subjects are comparing themselves when they make their responses.

In summary, the primary objectives of this symposium are:

1. To elaborate upon various means for obtaining reliable and valid self concept of academic ability data from both impaired and nonimpaired student populations.

2. To acquire a more definitive knowledge about cognitive assessment strategies in general with language and communication impaired populations.

3. To be able to describe more adequately social psychological characteristics of impaired populations.

4. To provide for the development and to examine the utility of a social psychological theory of learning.

Contributing to these objectives will yield many implications for understanding the educational problems of impaired populations. We have intentionally restricted our research, except in the case of the educable mentally retarded, to impaired populations who are in residential schools for the deaf and the blind. We expect to continue our work with other categories of impaired populations in other educational settings. Perhaps others will be stimulated to extend our work.

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IMPRESSIONS OF THE PAN-PACIFIC REHABILITATION CONFERENCE

Romaine P. Mackie

The Pan-Pacific Conference on Rehabilitation took place in Tokyo, Japan, in April, 1965. Impressions relate both to people and natural beauty. The Japanese people surrounded the conferees with courtesy and the kind of welcome which made us feel that no service was too great for them to give. They had also organized the conference so carefully that it functioned with remarkable efficiency and comfort.

Their Imperial Highnesses, the Crown Prince and Princess were present at the opening ceremony of the conference. In addition to his words of welcome, the Crown Prince set the tone for the working sessions by saying:

> At this conference, no doubt, all the participants will have thorough discussions based on the principles of humanism, sharing the valuable experiences you have already gained in your respective countries, which eventaually do much to promote mutual understanding and friendship. It is my ardent hope that your present conference will be most successful and will greatly contribute to the welfare of all mankind.

The conference was concerned with many aspects of rehabilitation, education, and care of the handicapped. Besides the important plenary sessions, there were special sessions on such topics as cerebral palsy, physical therapy, and special education. The special education sessions were organized so that about 100 people from approximately 20 countries (the majority of them Asian) had two full days in which to present and discuss papers. This uninterrupted time allowed for thoughtful delivery of papers and was conducive to the informal exchange of ideas. Major topics and concerns will be mentioned later in this report. To further enhance the value of the special education sessions, there were tours to both public and private schools in the Tokyo region.

Papers presented in the special education sessions were mainly concerned with: the organization of education of handicapped children and youth; the diagnosis, identification, and education of such children; the development of programs for younger and older handicapped children; the involvement of parents and relatives in special education; and the need for coordination of resources in administering programs for the handicapped. Attention was also given to the specialized areas of mental retardation, the physically handicapped, and the speech and hearing impaired.

As the sessions proceeded, it became evident that although the conference took place in the Far East, many of the trends and problems discussed by the group were similar to those which one would hear in a Western hemisphere conference. It also became evident that school programs for the handicapped were at different stages of development in the Far East just as they are in Western countries. Some countries were quite advanced, while others were little more than beginning their programs.

In Japan, handicapped children are included in the Education Law of 1945, and as a result, Japan has many publicly supported schools and classes for the handicapped. There are also private schools, some with long histories of achievement. In Hong Kong, where human needs are very pressing as a result of the rapid infiltration of population and overcrowded inadequate living conditions, the Ministry of Education has a coordinated staff of specialists in the various areas of the handicapped who help in the development of public facilities. They also aid private schools when needed. In both Japan and Hong Kong, much attention is given to the training of personnel. Japan has a training program for special teachers at the University of Tokyo, and Hong Kong has been preparing leaders in professional services by financing their education abroad.

In contrast, representatives from Indonesia reported that there was, as yet, very little public support for handicapped children. This problem usually occurs in developing countries. Since education is available to very few pupils, it is exceedingly difficult to serve handicapped children. However, the country has recognized "that every human being has the right to develop his innate capacities and every handicapped child should be given an opportunity to enjoy the natural growth and development and special education should be given to physically and mentally handicapped."

Main Issues

The ten topics identified for special consideration in the two days of the education sessions were for the most part the same topics that would be discussed almost anywhere in the world. Two of them, however, were considered in a somewhat different way in this Far Eastern conference and will be reported first in the series.

1. Developing public understanding. There was an eager searching among the conferees for effective means of disseminating information to alter the prevailing misconceptions that hinder understanding of the handicapped. Social acceptance and public understanding were agreed to be necessary for effective development of special education programs. It was evident from the delegates" comments that this is a much bigger problem today in the Far East than in most other parts of the world.

   Because of this lack of public understanding and acceptance of the handicapped, the delegates proposed the following course of action: utilization of all available mass media to keep the public informed; involvement of members of relevant agencies, professions, and civic groups with educators; dissemination of information to parents and other citizens; development of plans to educate handicapped persons in rural areas; and improvement of occupational training and placement of the handicapped.

2. Participation of parents and family in school programs for the handicapped. In many of the schools, one could observe extensive participation of parents and relatives in the active classrooms of handicapped children. Grandmothers and mothers, sometimes accompanied by young children, were to be seen in many of the classes. Some of the parents listened, some observed materials and equipment, others assisted the teacher, and still others transported children to and from school. In a few cases, very young children not yet enrolled in school were actually beginning their instruction by observing and listening in the classrooms. Perhaps this active involvement of the family is easier to achieve in the Far East where the family unit is still so strong. However, it suggests practices and procedures which might be more fully used throughout the world.

   The following are the other points of emphasis, which have familiar counterparts around the world.

3. Basic philosophy and goals. It was recognized that every child, including the handicapped, should have appropriate educational opportunity. The conferees felt it was necessary to go on record on this, since, in so many countries where education is not a universal right, education of handicapped children is completely ignored. Suitable education, it was agreed, would vary not only from child to child, but from country to country, due to differing ideals, goals, cultural patterns, and stages of the nation's development.

4. Diagnosis and placement of children. Discussion focused on the importance of early detection of handicapping conditions in young children as a means of minimizing the handicaps and providing a foundation for effective educational programs.

   Some discussion was given to testing and to diagnostic instruments used in identifying, classifying, and placing handicapped children in school. It was recognized that existing psychological and psycho-social measurement instruments have limitations.

   It was further acknowledged that initial diagnosis is not sufficient for effective educational planning, but must be followed by continuing evaluation of the child and modification of educational programs to meet individual needs and rates of development. Evaluation of social, physical, psychological, and emotional development was considered to be as essential as evaluation of academic achievement.

5. Problems of children with multiple handicaps. During the conference, there was recurring interest and attention given to the plight of children with multiple handicaps and complex educational needs. Examples of such children are the deaf-blind, the severely mentally retarded blind child, the motor handicapped child with severe communicative disorders, and the culturally deprived child with such severe impoverishment of experience that he functions as a retardate. Appropriate school placement, priority of need and service, and suitable curriculum materials present problems in dealing with these pupils.

6. Curriculum. The participants would have enjoyed more time for discussion of curriculum development and adjustment for handicapped children from preschool age to young adulthood. Curriculum discussions ranged from nursery school and kindergarten and the acquisition of basic skills to subject content at the elementary and secondary level, occupational training, and sheltered placement. The conferees, in discussing education in the basic skills, acknowledged the high importance of life-related knowledge and stressed the need for utilizing materials and experiences adapted to the strengths as well as to the disabilities of the learners.

7. Organization of school programs. If the doors of educational opportunity are to be opened to all handicapped children and youth, a variety of programs must be available. For some children, the special day school is the most practical. Others may receive their schooling in special classes located in ordinary schools, in a residential school, or through the help of some itinerant service. For some, the school must be available in hospitals or convalescent homes or, when no other plan is feasible, in the children's own homes.

   While these are the most prevalent types of school provisions, attention should be given to the possibility of other educational plans so that children in sparsely populated areas and newly developing countries all over the world may have the advantage of educational opportunity. Even countries with long histories of educational efforts with handicapped youth and with expanding services are quick to acknowledge serious program deficits in rural areas. The other extreme, the over-populated slum area, presents large numbers of disadvantaged, retarded, disturbed, or maladjusted youth who need but do not receive special education because of shortages of qualified teachers, facilities, or supporting services.

8. Qualified special education personnel. Through all the sessions on special education, there was vigorous expression of concern over the difficulties of securing qualified personnel. The acute shortage of qualified teachers to work with the various kinds of handicapped children appears to be a major obstacle to developing the required classes and services. It was noted that, although increasing numbers of colleges and universities are now preparing special educators and rehabilitation personnel, more rapid recruitment is a worldwide need.

   There was little discussion on official teacher certification standards per se, but efforts to establish such standards were reported by some of the nations represented. The importance of inservice education was stressed as a means of both meeting preservice deficits and the continuing professional educational needs of teacher specialists.

9. Special area emphasis. While all areas of special education came under discussion during the two day sessions, speech and hearing impairment, mental retardation, and the physically handicapped were highlighted. In the conference there was much emphasis on the hard-of-hearing child who is not profoundly deaf but who seems to

need more than the services of an itinerant teacher. Several research studies concerning various problems of speech and hearing were reported. Examples reported show that early diagnosis and treatment of hard-of-hearing children results in a remarkable increase in auditory capacity and vocabulary development. It was also shown that partial integration of some hearing impaired children in ordinary schools is desirable, although other hard-of-hearing impaired children would progress better in separate classes.

It was suggested that because of the deaf pupils' communication problems, emotional underdevelopment, possibility of limited vocabulary, and learning and economic factors related to professional preparation and adjustment, there should be more association of the deaf and non-deaf at the higher education level.

Vocational education and rehabilitation of the mentally retarded was of great interest to all countries represented. It was agreed that all nations are still in the pioneering phase in this important field of endeavor.

10. Interdisciplinary cooperation. There was agreement on the value of a multidisciplinary approach to diagnosis, treatment, educational placement, and evaluation. Extension of the team concept to include special education was seen as a natural and necessary liaison in the comprehensive planning and programing for the handicapped.

It was agreed that the problems presented by handicapped children, youth, and young adults are so manifold and varied as to require skills, techniques, and resources which cross professional boundaries. The full understanding of the handicapped and their needs awaits answers from basic and applied research. Success in achieving the purposes of special education will depend upon our ability to draw upon the special knowledge of areas ranging from neurology to pediatrics, from experimental sociology to special education and rehabilitation. We must learn to communicate more fully and complement each other.

There was consensus that every possible means for international exchanges of special educators be encouraged. This was deemed necessary in order, as quickly as possible, to take advantage of new knowledge which affects the care and education of the handicapped. Teacher exchange was believed to be one of the best ways of spreading and utilizing such ideas and knowledge.

Conclusion

There was general agreement that special education should take increasing advantage of all humanitarian and welfare movements which tend to alleviate the problems of handicapped children and improve their welfare. Though newly developing nations have insufficient financial means to support needed programs and services, it should be recognized that there are recent actions of UNESCO, International Labor Relations, World Health Organization, and similar agencies which provide aid for initiating such services. These international organizations and others are serving the world's children, and every expansion of their programs enhances educational opportunity for the world's handicapped youth.

ALTERNATIVES AND EXTENSIONS TO THE OPERANT

Douglas A. Quirk

The purpose of this meeting is to discuss operant conditioning as a general procedure to affect the behaviour of exceptional children. I wish to begin by discussing some of the uses of the procedures in question, and then remark about some of the limitations of the procedures and alternatives to them.

First, let me distinguish among several types of learning models. Operant conditioning, or type R conditioning, is that method of training which attempts to shape or form the response output of a subject by manipulating the pattern of consequences or rewards which follow and are made contingent upon the appearance or emission of the required behavioural patterns. In a general way, type R conditioning is distinguished from type S conditioning (or classical conditioning) in that the contingent event is a stimulus event which follows or is contingent upon the occurrence of another stimulus event, and which is itself followed automatically by a response. In addition to type R and type S conditioning, other forms of learning are recognized, including instrumental learning, rote learning, gestalt learning, conditioned inhibition, avoidance conditioning, etc. Many of these forms of learning may be conceived as merely specific applications of other general models for learning so that, depending upon one's own predispositions, one may conceive of as few as two or as many as six or seven different types of learning models. In my view, certain kinds of learning, or certain models for learning, characterize the learning acts occurring naturally associated with maturation or development of the human organism. Thus, one might speak of learning models, not only in terms of conceptually different types of models, but also in terms of the kind of model appropriate to the stage of development or the habitual modes of adaptation of the child to the environment. Moreover, different forms of learning are appropriate to different forms of material to be learned. Perhaps the earliest form of learning which occurs in the human after birth is type S, classical conditioning. The function of type S conditioning seems to be largely that of training in emotional responses to environmental events and stimuli. A more mature form of conditioning is type R operant conditioning, which is concerned with the adaptation of the organism to its environment by the process of constant refinement of its behavioural output. Although there probably are more mature forms of learning than operant conditioning, it seems to me that the natural form of conditioning by which much of the learning in school is accomplished is a result of operant conditioning.

Viewed in these terms, the job of the teacher becomes one of being a programed operator who is dispensing rewards or reinforcements for those selected behavioral outputs which she deems appropriate and correct. You will notice that in this there is no suggestion of rote learning or of teaching a person, as such. In these terms training becomes the act of increasing the habit strength of a particular response in contrast to another response by supplying the appropriate reward immediately upon the emission of the desired response.

One can see at once some of the limitations of operant methods in terms of the availability of teacher time to serve as the operator to dispense reinforcements. Obviously, in a class of 15 to 30 students, the teacher can hardly respond at once with the appropriate reinforcement for each child, immediately after each response is emitted. Moreover, it is exceedingly difficult for most teachers to be sufficiently aware of the particular modes of adjustment and interests of each child at any particular moment so that she may understand the context of the behavior which the child is emitting at that moment. Consequently she will often misapprise the meaning of the behaviour and fail to reward on the basis of her misunderstanding of the context of the response. But the problem is of wider application than this.

I have said that operant conditioning is the appropriate means of training for most children in the regular class situation. However, it would seem particularly appropriate to apply the rules of effective learning with exceptional children. Several programs have attempted to do just this. In view of my familiarity with adult retraining programs, I will focus my attention here on some of the methods and problems associated with adult retraining in hospitals, although I expect that the situation is somewhat different for children in most respects.

Hospital Operant Conditioning Program

Several hospitals have adopted operant conditioning programs for dealing with their extremely regressed patient populations. An example of such a program is a retraining scheme being used at the Lakeshore Psychiatric Hospital in Toronto using the conventional means of operant conditioning to deal with chronically regressed patients on one ward. The patients on the ward in question had had an average length of illness probably exceeding 20 years, prior to the introduction of the operant conditioning program at Lakeshore. The patients were considered by most people to be hopeless cases, having no other future than continued incarceration in the back ward setting of the hospital. Most of the patients had received a full range of psychiatric treatments prior to their placement in the regressed ward, and had not responded to such treatments.

The psychology department at the hospital was offered this ward of regressed patients for experimental application of operant procedures to see what could be done. They structured the nursing staff as operators to provide adequate and immediate reinforcements or rewards for all socialized effective behaviour. The ward was converted to a token economy in which tokens were received for effective behaviours by the patients (such as turning up for a meal on their own steam or making their bed), and were paid by the patients for services rendered to them which they wanted. Very quickly the patients began to respond at minimal social levels of adjustment to this kind "treatment." The program has been running for about a year and a half now, and a majority of the patients has now been discharged to nursing home or boarding home arrangements, where the minimal social abilities developed in the operant conditioning establishment were seen to maintain themselves quite adequately so the patients could support themselves in primitive social living.

I do not wish at this time to enter a prolonged account of the details of how this operant program was run, nor do I wish to discuss in any detail the results of the program with particular patients or with respect to the ward as a whole. This sort of program can be seen in adequate detail in SKF's film entitled "Reinforcement Therapy." Instead, I would like to direct my attention to some of the limitations of this procedure, which I assume requires little further evidence to support its efficacy.

Program Limitations

As I see it, the operant routines, while effective in accomplishing their limited goals, had at least three limitations to their effectiveness in this patient group. And, they would presumably have such limitations in dealings with any other group of exceptional people. The first of these limitations is the efficiency with which the operation seems to work. One might assess the efficiency of an operation in terms of the cost compared with the returns. The cost of this program apparently amounted to about one and a half years (on the average) of work between one staff member and every three patients. The returns, on the other hand, may be defined as involving the increase in behavioral output or functioning from a severely regressed level of behavior, in which a large number of the patients had to be literally fed and clothed and fully cared for, to a level at which most of the patients could look after their own simple social needs of looking after their own hygiene and conversing more or less appropriately with peers. While this represents in many ways a very large return, it also represents a rather limited effectiveness of the patient at the end of treatment. It might properly be argued that the treatment was incomplete and could have been carried much further once the patients had been raised to the level of functioning which had been achieved by the end of the project. However, the cost involved resulted in the given state of returns. I would contend that a greater return should be obtainable from such high cost.

The second limitation of this operant program may be stated in terms of its effectiveness, or the extent to which whatever behavior is acquired during the conditioning program remains with the person while the person continues to grow on the established basis. On the basis of short term followup something occurs in the transition from the token economy of the ward to the normal community economy such that the patient can convert from one economy to the other without much loss of skill in the social contract. Indeed, some generalization or transfer of training seems to take place and the patient's acquired behaviors do not seem to regress very greatly. At the same time, the new contract is not all that different from the former one on the ward. The patient is still treated essentially as an underproductive citizen, and does not continue to grow much in social skills even though living in the community. If the simple boarding home community does not supply continuance of the contract established on the ward, the evidence is that the behavior which has been shaped tends to disappear.

The third limitation of any operant program is probably best stated as the desirability of the behavior outcome of the program. The behavioral outcomes of operant procedures are potentially infinite in number, and one behavioral outcome might perhaps be "variety of behaviors" if this type of behavior had been reinforced. However, "variety of behaviors" would be hard to reinforce, and I don't know of anyone who has tried to do so. It is consequently more often true that one result of an operant program is restriction of response freedom, both because of nonreinforcement of "symptomatic" behavior and because of reinforcement of those particular kinds of behaviors which the particular operators prefer in others. Most of us, however, prefer or consider desirable the appearance of individual differences marking the individuality of people. Indeed, I suspect it was this value which underlay the recent era of nagging children to express themselves and their own individualities, in turn probably accounting for the hyperconventionality of the younger generation today.

I have objected to the somewhat low efficiency, effectiveness, and outcome desirability of operant programs. I also said that, as operant programs tend to be run using human operators, the efficiency of these programs tends to be less than it might be, due to the problem the human operator has in responding immediately and appropriately to behavior emitted, especially when such programs involve simultaneous work with large numbers of people. These last two objections, however, can be largely overcome using teaching machines which have been preprogramed by good teachers. But I suspect that is an unpopular point of view, and nothing unpopular can be used very effectively. What other alternatives are there, then, which might prove more efficient, more effective, and/or more desirable in their outcome?

Before I can suggest any answers to that question, we must agree on what we wish to achieve, and with whom. The term exceptional child (or exceptional person) points to some unusual pattern of response which is in some way dissimilar compared with the normal course of development. Broadly speaking, some inhibitory or facilitatory behavioral effect has been produced structurally or functionally. I have no alternatives to suggest to operant procedures for structurally impaired persons, when the task is mostly extra training in specific behaviors. Some of these behaviors requiring extra training will be feeling and emotional responses, and here classical conditioning has to be used as an extension of operant techniques.

If either the inhibition or facilitation of behavior (and I consider both to present problems) is functionally based, there is a wide array of techniques which can be used to extend the range of operant procedures. If we look closely at the human body to see what is in it to support or maintain inhibitions or even facilitations of behavioral output, in the absence of specific inhibitory or facilitatory training, we will conclude that the only body response system of governing consequence which could be involved is the broad system of integrations and responses—anxiety. If we can undo or counteract a person's anxiety responses, we should be able to reduce attendant inhibitions of behavior which anxiety motivates and maintains. I will not describe here the complex system of interactions which maintain an anxiety response once it is acquired, or the means by which anxiety perpetuates inhibitions or avoidance behavior. Instead I will rely here on the self evident character of the statement that both behavior inhibition and facilitation are direct representations of avoidance in order to show the relevance of what I am saying. The inhibitor is avoiding the investment of interest, effort, cooperation, or action for some reason; the facilitator is avoiding the danger of not doing well by investing too much effort or interest in one sphere of living. Avoidance implies the presence of anxiety or danger. (I am begging the question in this way to save time since it would take some time to detail the neurotic chain.) Just because a person is anxious or feels there is danger in a given situation does not mean that there really is danger. Indeed, the chances seem quite good that anxiety is for most people an excess response these days which really does only harm. If, then, we could reduce a child's anxieties, we might be able to more easily help him bypass the inhibitions maintained by the anxiety.

Operant techniques are available to reduce a child's anxieties. The old admonition to ignore undesirable behavior, including anxious behavior and its derivatives, still works, particularly if one also reinforces progressive attempts on the part of the child to cope with an anxiety provoking situation. Again, however, it is often hard to determine in the daily situation what the meaning of a particular behavior is to a person. Moreover, each of us is inclined to recognize particular bits of behavior as, for example, coping behavior, and our reinforcement tactics are thus apt to select for the person a particular band of coping behaviors. Operant procedures may thus free the person from the constraints imposed by anxiety, but they again are apt to impose their own kinds of constraints. What other forms of conditioning might be available which can efficiently and effectively reduce the constraints upon behavior imposed by anxiety, while at the same time reducing the amount of constraint imposed by the conditioning itself?

Anxiety Reduction

Anxiety as a response of the organism is usually induced by some application of the classical conditioning model. The model for extinction of a classically conditioned event involves presentation of the conditioned stimulus (in this case, the stimulus for anxiety) under conditions in which the unconditioned stimulus (in this case, the anticipation of anxiety arousal) or the conditioned response (in this case, the anxiety response) is absent. To present an anxiety stimulus without having either the anticipation of anxiety or anxiety response occur at the same time is not as difficult as it may sound, and it is a rather obvious thing to do. What is a bit less obvious is how to determine what sorts of anxieties people have which interfere with learning and general social living, and what people do as a consequence of feeling anxious about these things or stimuli.

One can reduce expectation or anticipation of anxiety on the part of the anxious person merely by reducing the intensity of the stimulus for anxiety. Every teacher knows how to do this either by intensity reduction or by reduction through generalization. Two examples will illustrate these two concepts. If you have a shy child (one who is anxious about being noticed in groups and therefore emits little behavior or is still and quiet for fear of attracting attention to himself), you will have him get up along with a large group and have them all do the same thing. The intensity of the self referent stimulus is thus reduced appreciably, and as he starts to feel more comfortable behaving with a large group, the size of the group in which he behaves will be slowly and progressively reduced. Or, if you have a child who is afraid of animals (one who is afraid of direct contact with mammals), you will arrange for animals to appear in the room with him, starting with fish in an aquarium and progressing through hamsters and rabbits in cages, to controlled handling of the animals by the children. The intensity of the stimulus is reduced at first by presenting the stimulus implicitly very far from the real central stimulus, introducing it only in generally similar forms to the real central stimulus, and reducing the degree of generalization slowly and progressively. If the stimulus is presented in these ways with reduced intensity under conditions of usual daily living, the anxiety conditioning can slowly be extinguished.

One can also reduce the anxiety response in an anxious person be preventing its occurrence. Every teacher knows to do this either by activating a strong nonanxious pleasure response or by insuring that the person is doing something else which competes with and prevents him from performing his usual behavior which occurs when he is anxious. Two examples will illustrate these two concepts. If you have a child whose facial muscles twitch unappealingly whenever he gets up to speak as a result of his anxiety in being noticed and possibly criticized, you will very likely get him to do something such as shaping something with his hands which competes for his attention, or mimicking facial expressions of emotion like an actor, which competes with the facial tic for the use of muscles. Or if you have a child who is fearful of authority and has to see the principal briefly, you may give him a candy to chew while sending him off to the office, in order to arouse the pleasure sensations of food to alleviate the anxiety response associated with the principal. If a strong enough competing response can be induced in many exposures to an anxiety-provoking situation, so that the anxiety response or its avoidant behavior consequence is blocked, the anxiety reaction will eventually be extinguished.

It is possible also for a strict teacher to untrain a child's anxiety reactions by using herself to condition a so called anxiety-relief response in a child. The use of such an anxiety-relief reaction is to set up a response to compete with the anxiety response itself. The method for doing this might be as follows: you have an anxious child whose anxieties for the most part don't get too much in the way of his effectiveness; however, he does become quite hopeless when he has to stand up in front of the class. You feel that it is anticipation of having to do this which disrupts his learning for most of each day. Toward him you begin to act very mean, badgering him, criticizing his work to him, acting generally mad at him. Then everytime he stands up for any reason, whether it is to move to another seat, to speak, to go out at recess, or to do anything, suddenly and immediately you become sweet and nice, smiling at him, patting him affectionately on the shoulder if you happen to be near at hand, and nodding your head toward him in a friendly way. If he speaks, you pile this treatment on harder. In doing this you are using relief from your obnoxious behavior as a reward or as a relief sensation to be related to his standing up and addressing himself to the class.

But what is the point of discussing these methods to relieve anxiety? Is anxiety that important a feature in exceptional behavior? I submit that it is. Shyness, pedantic exactitude of speech, unwillingness to guess, sitting at the back of the classroom, unwillingness to try or to express opinions or attitudes, competitiveness, repetitive actions, preoccupations with a limited subject matter, day dreaming, disinterest, excessive dependency, challenging rebelliousness, vague perceptions, cloudy idea, unexpected stupidities, etc., are the very substance of the exceptional child's behavior. And these are the kinds of reactions which can most easily be accounted for in terms of anxiety. But what sorts of fears could account for such behaviors? It seems likely, on the basis of considerable pilot research data on exceptional behavior in adults, that the most common types of anxieties occurring in the presence of these sorts of behaviors include anxiety about dirt, authority, being the center of attention and noticed by others, traffic, being trapped or restrained (as in a classroom), self assertion, and emotional closeness to others. There are many other stimuli for anxiety but these seem to be the main important ones. If we can reduce these anxieties we have a chance to relieve thereby the exceptional behavior they maintain.

In our own work we have devised a great many other techniques for relieving anxiety responses, and our results thus far are extremely encouraging in terms of the consequent greater effectiveness of our patients in their general living. Unfortunately, our methods for identifying the relevant anxieties in people and the more sophisticated methods for dealing with the identified anxieties are currently undergoing various types of intensive investigation, and I am unable to give you very precise indications of results with them. Nevertheless, I would like to tell you briefly about some of our methods.

Anxiety Identification

With regard to the problem of identifying anxieties, we have developed three classes of methods. The first is the conventional test method. We are working on three different types of anxiety questionnaires, based respectively on factors of anxiety responses such as Cattell's factoring procedure for anxiety, factors of anxiety response source such as some work done by Endler and others, and factors of anxiety stimulus sources such as those employed by Wolpe in his work.

The second method is an adaptation of the conventional case history method. We are working toward a correlation of anxiety stimuli with manifest behavior, in order to employ a standard case history form to generate information concerning anxiety stimuli and consequent avoidant responses.

The third method uses a large number of series of slides and auditory stimuli presented to the subject while his arousal responses measured on several polygraph channels are recorded. This allows us to directly infer those classes of stimuli which activate anxiety. These methods, I grant, have little to do with operant methods. But the use of the information gleaned in these ways has something to do with operant methods, or at least with extensions to them.

Modification of Anxiety Stimuli

Having identified anxiety stimuli in the above ways, we are also attempting to modify them using some standard behavior therapies of the Wolpe-Eysenck types and about 20 procedures of our own design. I cannot mention all of these procedures, but some of them are of interest here as extensions of the operant. Let me mention two or three briefly.

A method which is probably based on an operant model we have called Conditioned Acceleration of Response Repertoire Acquisition (CARRA). The method involves slowly increasing the intensity of a noxious stimulus, such as electric shock to the fingers, until the subject makes a criterion response, at which point the noxious stimulus is immediately terminated. The responses required of the subject are stated to the subject as follows: "Each time I turn this up I want you to tell me a different thing that you might say about the weather (or some other category of responses." A different response category is given for each treatment session. Most people give about eight responses in the average category used. A session lasts five to ten minutes. We have had some remarkable effects in chronic psychotic patients with this procedure within two, three, or four treatment sessions. Apparently, wide generalization can occur in psychotics, in this case apparently having favorable results in terms of widened response repertoires.

A method which attempts to correct for the unfortunate effects on anxiety of stimulus overgeneralization in psychotics as well as to correct some of the ambiguity intolerance and pathological thinking found in psychotics, we have called Generalization, Ambiguity, and Pathology reversal (GAP). This method uses the teaching machine model to present patients with somewhat abstract drawings and multiple choice alternatives for response. Reinforcement is made contingent upon response fulfilling all the following criteria: (a) it is immediate, which should mean that the subject is not being upset by the stimulus ambiguity but is coping with it; (b) it is a fairly common response, which should mean that the subject is not responding with too pathological an idea or thought to the stimulus material; and (c) it is at an appropriate level of conceptual abstraction, being neither too specific, such as "the door to your office," nor too abstract, such as "an opening." One might think that this complex contingency would be too much for a sick patient to handle. However, careful grading of the material in the task seems to get around that problem, and some shaping seems to occur even with our first sets of materials, which, however, obviously require some adaptation.

Finally, a method which is quite exciting is a complex procedure to get around the limitations and difficulties of Wolpe's method for anxiety desensitization. This method, called Stimulus Conditioned Autonomic Response Suppression (SCARS), employs operant techniques in part to effect anxiety suppression for a wide range of anxiety stimuli. The anxiety stimuli used are the many series of such stimuli presented as slides which are also being used in the third method for assessing anxiety stimuli mentioned earlier. The technique involves operantly shaping the GSR reaction upwards (on the assumption that GSR follows autonomic or anxiety responses), while the subject is viewing slide presentations of anxiety stimuli. The operant component of this method shapes the GSR response, and hence presumably the anxiety response, while the classical conditioning component of the method conditions the operantly reduced anxiety response to the stimuli presented. The model thus duplicates what probably happens in the neurotic chain of anxiety, with the exception that the anxiety response is being suppressed instead of being activated.

A final word about the extensions and alternatives to the operant methods that I have mentioned. On the basis of preliminary data similar to that which I have reported, using standard operant methods, it seems fairly safe to state that the methods I have been using are appreciably more efficient and effective and are less response-determining than the standard operant methods. We are in the process of exploring this matter further.

ABSTRACT

THE DYNAMICS OF THE INTELLECT: A WORKING HYPOTHESIS FOR EDUCATORS

J. Richard Suchman

Models are representations of reality. We construct them as a way of abstracting the essential characteristics of some process or structure. Scientists make and study models of molecules and river basins; a chemical equation is a model of a chemical change.

The human mind makes use of models to organize thinking. We use them so easily and frequently that we hardly recognize them for what they are. Displacement is a typical example: the child learns early in life that two objects cannot occupy the same place at the same time and that if a new object moves into an already occupied space, something must move out. This model in its simplest abstract form helps us to understand and explain why water rises in a bathtub when you get into it or even why a child is jealous of his new baby brother. The models we use strongly influence the way we perceive the world and the actions we take in trying to interact with it.

Somewhere beneath the superstructure of countless educational decisions and actions taken in and out of the classroom is a set of assumptions about the nature of the learner and the teaching-learning process. It is my purpose in this paper to examine some of these assumptions, raise some questions about their validity, and then propose a model as an alternative hypothesis, drawing implications for educational practice.

Assumptions

I am concerned at this time with three classes of assumptions that are implicit in most current educational practice.

1. Assumptions about the nature of truth and knowledge: how they are acquired, stored and communicated.

   Truth is regarded as having an absolute quality. Its existence transcends the people possessing knowledge of it. Through his searching, man uncovers the truth. This is done mostly by experts—the scientists and scholars who package their knowledge in language or other symbolic forms and prepare it to be delivered to others. Hence, knowledge can and does reside in language form. Teachers, books, and other media can impart knowledge of the truth, using language as a vehicle or carrier.

   Knowledge can be ordered in a logical structure which represents how things really are. Within this structure, each level rests upon the foundations laid down in the preceding strata. Hence it is necessary in conveying knowledge through language to build a solid foundation of fundamentals before moving ahead to higher levels. Translating this into a physical model, truth is seen as analogous to matter. It has its own existence; lies hidden, waiting to be uncovered; and can be picked up, put into a carrier (like sediment in a river or blood cells in plasma), and deposited as knowledge in the mind which acts as a receptacle.

2. Assumptions about the nature of cognitive learning.

   Receiving and Storing. Learning is the accumulation of knowledge (including ideas and information). The learner takes in language containing knowledge. If the teacher's instructions are correct and the knowledge he delivers is valid and important, and if the student follows the instructions carefully, the student will place each new block of knowledge in the right place and build a sound, durable structure. The logical structuring of knowledge (something like a file drawer or encyclopedia) in association with correct language facilitates the communication and retrieval of knowledge when needed.

   Motivation. Learning is difficult and requires special effort. There is a natural resistance that must be overcome. If it is not, the student will play or daydream. With the latter, there are no constraints, no pressures, no resistance, no accomplishments. The only value in play is respite from work. Therefore, one important key to successful learning is motivation. Motivation is a homogeneous resource, varying only in the quantity and regulated either internally by will power or drive or externally by rewards or punishments. Motivation is regarded as something like water pressure or voltage. When resistance is higher, motivation must be increased. Higher voltage is called for when there are more lights to burn; you give a car more gas to get up a steeper hill.

3. Assumptions about the functions of education in the light of the foregoing assumptions about knowledge and learning.

   The principle objective of education is to deliver correct knowledge to students and to have them retain and apply it. To do this, education performs the following functions:

   a. Selection of knowledge to be imparted.

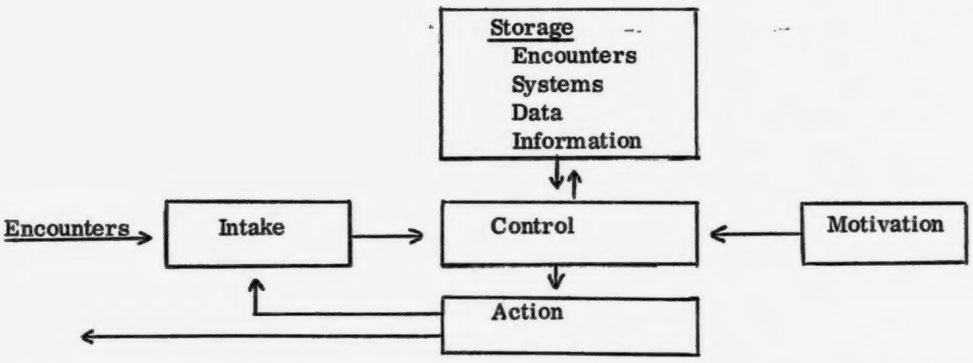
b. Packaging of knowledge in a form that can be communicated.
c. Delivering knowledge to students in a sequence that will build the knowledge structure most soundly and with the least amount of resistance or strain.
d. Motivation of students to open up, receive, order, and store knowledge.
e. Evaluation of how much has been stored and how accurately.
f. Evaluation of how the student can apply his knowledge.

There are reasons to question most of these assumptions. If we continue to accept them and build our models of teaching and learning upon them, we will continue as educators to set the wrong goals, to make the wrong decisions when we teach, and to ask the wrong questions when we evaluate.

An Alternative Hypothesis

In place of the above assumptions, I am proposing a model which characterizes learning as a process of internal growth and reorganization rather than externally mediated packaging, transporting, and constructing.

Schematically, the model looks like this:



It is designed to express the dynamics of the intellect in terms of five major functions: perception (intake), retention (storage), motivation, action, and control. I shall use this model to explicate a new set of assumptions about learning, knowledge, and the function of education.

Learning

1. Learning is transactional and continuous.
2. Man encounters aspects of his environment as an acting-sensing creature.
3. Through his encounters, man is constantly changing.
4. The changes are not accumulations as much as they are reorganizations, differentiations, and new connections.
5. Through these changes, the knowledge structure expands and becomes more differentiated and integrated.

Knowledge

1. Knowledge resides only within the mind of a living creature. It is a condition of the mind. It is personal.
2. It is the capacity to respond with recognition or understanding to a stimulus.

3. While language becomes inextricably interwoven with other forms of knowledge, some forms of knowledge can and do exist without any language association.
4. The knowledge structure grows (learning) as the structure is repeatedly matched against new encounters.
5. To the extent that the knowledge structure is powerful enough to make a new encounter meaningful, assimilation has occurred.
6. To the extent that the knowledge structure is changed to match new encounters, accommodation has occurred.
7. Through assimilation and accommodation, the individual brings his world of ideas and knowledge into closer articulation with his world of experience.
8. Language can facilitate this articulation; it can also hinder.

Education

1. Teaching is a process of intervention to facilitate and give direction to the growth of the knowledge structure.
2. The teacher can influence the conditions surrounding the student.
    a. He can regulate the resources available to the learner.
    b. He can provide freedom to the learner in his use of time, space, material and people.
    c. He can influence the kinds of the responses the learner gets to his words and actions.
3. There are also many conditions over which the teacher has little or no control and which also influence learning.
4. The total intellective system is motivated by needs which have a hierarchy of priority. Starting with the most basic biological and general needs and moving toward the most advanced intellectual and individualized needs, the order of priority is approximately this:
    a. Physical survival (food, water, air, etc.).
    b. Social-psychological survival (to be loved, accepted; self-acceptance).
    c. Cognitive control (to know and understand, to be able to predict and control, to have closure).
    d. Arousal and excitement (to sense, to feel, to experience, to be actively involved).
5. To the extent that the environment tends to satisfy the needs at the more basic levels of motivation, the person becomes more oriented toward the higher levels. (Levels 1 and 2 correspond roughly to Maslow's *deficiency* needs, 3 and 4 to his *growth* needs.)

Implications

The implications of this model for educational thought are:

1. Education should be largely a matter of inquiry, an autonomous search for new meaning, understanding, experience, and awareness.
2. Schools should become centers where individuals can search with freedom and with help.
3. The school should protect the learners from external pressures that could interfere with the searching.
4. Teachers should become facilitators, focusers, guides to the searching activities of individuals.
5. The only groupings should be self selected primary groups to meet the purposes of the individuals electing to come together, lasting as long as members wish to remain together.
6. Didactic presentations and programed instruction should be available to any student whenever he wants it.

7. Evaluation should be periodic and performed through intensive dialogues between individual students and diagnostic teacher evaluators. The purpose should be to map out the breadth and depth of the student's skills and knowledge. The student should maintain a continually expanding record of his cognitive growth as a basis for his decision making.

Summary

The objectives and methods of education are dictated largely by the conceptual models of the teaching-learning process held by educators. From the language and patterns of American education, one can infer that we still regard education as a matter of transporting knowledge from the informed to the uninformed. It is suggested that a new model characterizing learning as growth occurring in a transactional context would lead to more realistic goals, methods, and assessments.

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